

# Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.



reserve  
1.941  
M8M34

MTS 177

MAY 1970

# MARKETING & TRANSPORTATION Situation



U. S. DEPT. OF AGRICULTURE  
NATIONAL AGRICULTURAL LIBRARY

MAY 27 1970

CURRENT SERIAL RECORDS

## MARKET FACTS

Item	Unit or base period	1969				1970
		Year	1st qtr.	3rd qtr.	4th qtr.	1st qtr.
Farm-Retail Price Spreads: <u>1/</u>						
Retail cost .....	Dol.	1,173	1,138	1,194	1,199	1,225
Farm value .....	Dol.	477	453	492	488	505
Farm-retail spread .....	Dol.	696	685	702	711	720
Farmer's share of retail cost .....	Pct.	41	40	41	41	41
Retail Prices: <u>2/</u>						
All goods and services (CPI) .....	1957-59=100	127.7	124.8	128.7	130.5	132.5
All food .....	1957-59=100	125.5	122.1	127.2	128.4	131.3
Food at home .....	1957-59=100	121.5	118.3	123.4	124.2	127.1
Food away from home .....	1957-59=100	144.6	140.8	145.8	149.0	151.5
Wholesale Prices: <u>2/</u>						
Food <u>3/</u> .....	1957-59=100	119.0	115.4	120.2	122.1	124.8
Cotton products .....	1957-59=100	105.2	104.7	105.6	106.0	106.0
Woolen products .....	1957-59=100	104.6	104.4	104.9	104.5	104.3
Agricultural Prices:						
Prices received by farmers .....	1957-59=100	114	110	115	117	120
Prices paid by farmers, interest, taxes and wage rates .....	1957-59=100	127	125	128	129	132
Prices of Marketing Inputs:						
Containers and packaging materials ....	1957-59=100	115	114	115	116	---
Fuel, power, and light .....	1957-59=100	105	104	105	108	---
Services <u>4/</u> .....	1957-59=100	146	142	147	149	---
Hourly Earnings:						
Food marketing employees <u>5/</u> .....	Dol.	2.84	2.79	2.84	2.89	---
Employees, private nonagricultural sector <u>2/</u> .....	Dol.	3.04	2.96	3.06	3.11	---
Farmers' Marketings and Income:						
Physical volume of farm marketings ....	1957-59=100	127	109	130	170	110
Cash receipts from farm marketings <u>6/</u> ..	Bil. dol.	47.4	46.0	48.0	47.5	48.8
Farmers' realized net income <u>6/</u> .....	Bil. dol.	16.0	15.0	16.5	16.2	16.3
Industrial Production: <u>7/</u>						
Food manufacturers .....	1957-59=100	136.8	136.8	136.9	135.5	139.7
Textile mill products .....	1957-59=100	153.7	152.6	153.9	151.4	149.7
Apparel products .....	1957-59=100	175.7	148.7	148.5	147.5	143.8
Tobacco products .....	1957-59=100	117.2	119.8	117.9	115.0	117.8
Retail Sales: <u>8/</u>						
Food stores .....	Mil. dol.	75,866	18,844	19,030	19,315	19,961
Eating and drinking places .....	Mil. dol.	25,849	6,324	6,433	6,589	6,733
Apparel stores .....	Mil. dol.	20,158	4,955	5,114	5,077	4,976
Consumers' Per Capita Income and Expenditures: <u>9/</u>						
Disposable personal income .....	Dol.	3,099	3,014	3,140	3,173	3,226
Expenditures for goods and services ...	Dol.	2,834	2,776	2,849	2,888	2,936
Expenditures for food .....	Dol.	511	506	510	515	533
Expenditures for food as percentage of disposable income .....	Pct.	16.5	16.8	16.2	16.2	16.5

1/ For a market basket of farm foods. 2/ Dept. of Labor. 3/ Processed foods, eggs, and fresh and dried fruits and vegetables. 4/ Includes such items as rent, property insurance and maintenance, and telephone. 5/ Average hourly earnings of production workers in food processing, and nonsupervisory workers in whole-sale and retail food trades, calculated from Dept. of Labor data. 6/ Quarterly data seasonally adjusted at annual rates. 7/ Seasonally adjusted, Board of Governors of Federal Reserve System. 8/ Quarterly data seasonally adjusted, Dept. of Commerce. 9/ Seasonally adjusted annual rates, calculated from Dept. of Commerce data. Percentages have been calculated from total income and expenditure data.

# MARKETING AND TRANSPORTATION SITUATION

Approved by the Outlook and Situation Board, May 11, 1970

CONTENTS	
	<u>Page</u>
Summary .....	3
Farm-Food Market Basket Statistics .....	4
Food Costs: 1960's in Perspective .....	9
Sales and Profits of Corporations	
Manufacturing Farm Products .....	13
Farm Products in Adhesive-Bonded Nonwoven	
Fabrics .....	15
Marketing Margins for Selected Dairy	
Products and Their Substitutes .....	19
✓U.S. Railroad Performance Indicators .....	24
Selected New Publications .....	31
Quarterly Data for the Market Basket of	
Farm Foods .....	32

## SUMMARY\*

Retail food prices averaged higher in the first quarter of 1970, continuing an advance which began more than 2 years ago. The retail cost of a market basket of farm-originated foods rose to an annual rate of \$1,225, up 2.2 percent from the preceding quarter. Most of the increase occurred from December to January. In March, for the first time in 6 months, the retail cost declined slightly.

Gross returns to farmers (farm value) for foods in the market basket averaged \$505 in the first quarter--up 3.5 percent from the fourth quarter of 1969. Higher farm values largely reflected sharply increased returns for beef cattle and hogs.

Compared with the first quarter of 1969, returns to farmers were up 11.5 percent. Sharp increases for meat animals, eggs and fresh vegetables contributed significantly to the rise. In contrast, farm prices for fresh fruits, processed fruits and vegetables, and a few other products averaged lower.

Marketing spreads, as measured by the difference between the retail cost and farm value of the market basket, averaged \$720 in the first quarter of 1970--1.2

percent more than in the preceding quarter. Increased marketing spreads accounted for about one-third of the rise in the retail cost of market basket foods--increased returns to farmers for two-thirds. Marketing spreads increased 5.1 percent from a year earlier.

Farmers received an average of 41 cents of the dollar consumers spent for farm foods in the first quarter. This was the same as in the previous quarter, but 1 cent more than a year earlier.

Increasing supplies of some farm food products are expected to weaken returns to farmers later in the year, perhaps enough largely to offset the expected 3 to 4 percent increase in marketing spreads. This suggests that retail food prices may fluctuate in a narrow range in coming months. But in view of current levels, retail prices of farm foods may average for 1970 around 4½ percent above 1969.

\* The summary of this report and a summary table were released to the press on May 11, 1970.



## FARM-FOOD MARKET BASKET STATISTICS

Retail Cost: Consumers paid an average of \$1,225 (annual rate) for the market basket of farm foods in the first quarter of this year--2.2 percent more than the previous quarter (table 1). <sup>1/</sup> The retail cost of most product groups increased considerably but those for eggs and fresh vegetables rose the sharpest. Most of the increase occurred in January. The retail cost declined slightly in March for the first time in 6 months (table 2).

The retail cost of market basket foods in the first quarter of this year was 7.6 percent higher than a year earlier. All product groups increased except fresh fruits which decreased sharply. Percentage increases were especially large for eggs, meat products, and fresh vegetables.

Consumers paid 25 percent more for market basket foods in the first quarter this year than in 1957-59. Increases in retail food costs of the past decade were about the same as increases in the Consumer Price Index of all goods and services.

Farm Value: The farm value of foods in the market basket averaged a record \$505 (annual rate) in the first quarter of 1970--3.5 percent above the preceding quarter. Sharply higher prices received by farmers for beef cattle and hogs accounted for practically all of the rise (table 1). Farm values declined for fresh and processed fruits and vegetables.

Compared with a year earlier, the first quarter farm value of the market basket was up 11.5 percent. Farm values of meat animals and eggs were over 20 percent higher. In contrast, the farm value of fresh fruits was nearly 30 percent

lower. Farm values of processed fruits and vegetables and a few other products were slightly lower.

Farm value of market basket foods in the first quarter exceeded by 2 percent the previous record established in the third quarter of 1948. First quarter farm value averaged 30 percent above the 1957-59 average.

Farm-Retail Spread: Marketing spreads accounted for about one-third of the rise in the retail cost of market basket foods in the first quarter of 1970; farm value accounted for two-thirds. The spread between the retail cost and the farm value of market basket foods averaged \$720 (annual rate), 1.2 percent wider than in the previous quarter. Spreads widened for all product groups except meat products and poultry.

Compared with a year earlier, the first quarter spread for market basket foods was 5.1 percent wider, with all product groups contributing. Spreads for poultry, eggs, and fresh vegetables groups increased more than 10 percent. Widening marketing spreads accounted for two-fifths of the increase in the retail cost of the market basket. Marketing spreads have increased 21 percent since 1957-59.

Farmer's Share: Farmers received an average of 41 cents of the dollar consumers spent for domestic farm foods in retail stores during the first quarter. This was the same as in the 3 preceding quarters but was up 1 cent from the first quarter of 1969.

In the 1960's the farmer's share was 40 cents or above in only one-fourth of the quarters. In the remainder of the quarters it ranged from 36 to 39 cents.

<sup>1/</sup> The market basket contains the average quantities of domestic, farm-originated food products purchased annually per household in 1960 and 1961 by wage-earners and clerical-worker families and single workers living alone. Its retail cost is calculated from retail prices published by the Bureau of Labor Statistics. The retail cost of the market basket foods is less than the cost of all foods bought per household, since it does not include costs of meals in eating places, imported foods, seafoods or other foods not of farm origin. The farm value is the gross return to farmers for the farm products equivalent to foods in the market basket. The farm-retail spread--difference between the retail cost and farm value--is an estimate of the total gross margin received by marketing firms for assembling, processing, transporting, and distributing the products in the market basket.

Table 1.--The market basket of farm foods by product group: Retail cost, farm value, and farm-retail spread, January-March 1970, October-December 1969, and January-March 1969

Items	January- March 1970	October- December 1969	January- March 1969	Change: October-December 1969		January-March 1970 from January-March 1969	
	Dollar	Dollar	Dollar	Dollar	Percent	Dollar	Percent
Retail cost <sup>1/</sup>							
Market basket .....	1,224.79	1,198.96	1,138.27	25.83	2.2	86.52	7.6
Meat products ...	377.35	369.38	332.21	7.97	2.2	45.14	13.6
Dairy products ..	215.61	211.84	205.54	3.77	1.8	10.07	4.9
Poultry .....	51.22	51.24	48.19	-.02	2/	3.03	6.3
Eggs .....	54.05	50.25	45.88	3.80	7.6	8.17	17.8
Bakery and cereal products .....	180.02	176.10	171.36	3.92	2.2	8.66	5.1
Fresh fruits ....	45.82	45.92	48.64	-.10	-0.2	-2.82	-5.8
Fresh vegetables :	83.21	78.74	74.54	4.47	5.7	8.67	11.6
Processed fruits and vegetables :	125.42	125.16	123.84	.26	0.2	1.58	1.3
Fats and oils ...	38.90	38.13	37.77	.77	2.0	1.13	3.0
Miscellaneous products .....	53.19	52.20	50.30	.99	1.9	2.89	5.7
Farm value <sup>3/</sup>							
Market basket .....	505.03	488.03	453.13	17.00	3.5	51.90	11.5
Meat products ...	220.53	205.20	179.65	15.33	7.5	40.88	22.8
Dairy products ..	104.68	103.13	98.78	1.55	1.5	5.90	6.0
Poultry .....	24.84	23.93	24.59	.91	3.8	.25	1.0
Eggs .....	36.27	35.41	29.99	.86	2.4	6.28	20.9
Bakery and cereal products .....	34.57	33.85	33.06	.72	2.1	1.51	4.6
Fresh fruits ....	11.68	12.49	16.46	-.81	-6.5	-4.78	-29.0
Fresh vegetables :	28.03	28.10	24.43	-.07	-0.2	3.60	14.7
Processed fruits and vegetables :	25.05	26.50	26.50	-1.45	-5.5	-1.45	-5.5
Fats and oils ...	10.36	10.32	10.39	.04	0.4	-.03	-0.3
Miscellaneous products .....	9.02	9.10	9.28	-.08	-0.9	-.26	-2.8
Farm-retail spread							
Market basket .....	719.76	710.93	685.14	8.83	1.2	34.62	5.1
Meat products ...	156.82	164.18	152.56	-7.36	-4.5	4.26	2.8
Dairy products ..	110.93	108.71	106.76	2.22	2.0	4.17	3.9
Poultry .....	26.38	27.31	23.60	-.93	-3.4	2.78	11.8
Eggs .....	17.78	14.84	15.89	2.94	19.8	1.89	11.9
Bakery and cereal products .....	145.45	142.25	138.30	3.20	2.2	7.15	5.2
Fresh fruits ....	34.14	33.43	32.18	.71	2.1	1.96	6.1
Fresh vegetables :	55.18	50.64	50.11	4.54	9.0	5.07	10.1
Processed fruits and vegetables :	100.37	98.66	97.34	1.71	1.7	3.03	3.1
Fats and oils ...	28.54	27.81	27.38	.73	2.6	1.16	4.2
Miscellaneous products .....	44.17	43.10	41.02	1.07	2.5	3.15	7.7

<sup>1/</sup> Retail cost of average quantities purchased annually per household in 1960-61 by urban wage earner and clerical-worker families and single workers living alone, calculated from retail prices collected by the Bureau of Labor Statistics.

<sup>2/</sup> Less than 0.05 percent.

<sup>3/</sup> Payment to farmer for equivalent quantities of farm products minus imputed value of byproducts obtained in processing.

Table 2.--The market basket of farm foods: Retail cost, farm value, farm-retail spread, and farmer's share of retail cost, averaged 1947-49 and 1957-59, annual 1960-69, monthly 1969-70 1/

Year and month	Retail cost	Farm value	Farm-retail spread	Farmer's share
	Dollars	Dollars	Dollars	Percent
Average:				
1947-49 .....	890	441	449	50
1957-59 .....	983	388	595	39
1960 .....	991	383	608	39
1961 .....	997	380	617	38
1962 .....	1,006	384	622	38
1963 .....	1,013	374	639	37
1964 .....	1,014	374	640	37
1965 .....	1,038	408	630	39
1966 .....	1,095	443	652	40
1967 .....	1,080	414	666	38
1968 .....	1,118	435	683	39
1969 <u>2/</u> .....	1,173	477	696	41
<u>1969 3/</u>				
January .....	1,138	447	691	39
February .....	1,136	452	684	40
March .....	1,141	461	680	40
April .....	1,150	465	685	40
May .....	1,157	472	685	41
June .....	1,178	496	682	42
July .....	1,190	497	693	42
August .....	1,197	496	701	41
September .....	1,196	484	712	40
October .....	1,187	477	710	40
November .....	1,195	490	705	41
December .....	1,214	498	716	41
<u>1970 2/ 3/</u>				
January .....	1,223	501	722	41
February .....	1,227	508	719	41
March .....	1,224	507	717	41
April .....				
May .....				
June .....				
July .....				
August .....				
September .....				
October .....				
November .....				
December .....				

1/ Retail cost of average quantities purchased annually per household in 1960-61 by urban wage-earner and clerical-worker families and single workers living alone, calculated from retail prices collected by the Bureau of Labor Statistics. Data for earlier years are published in Farm-Retail Spreads for Food Products 1947-64, ERS-226, April 1965. 2/ Preliminary. 3/ Annual rates.



Outlook: Retail prices of farm foods may fluctuate within a narrow range in the next several months from the first quarter level, and then decline somewhat in the fourth quarter if supplies of major items increase as expected. Increasing supplies of some farm foods may weaken returns to the farmer. Because of rising costs of labor and other inputs purchased by marketing firms, marketing spreads are expected to widen during the remainder of the year and average 3 to 4 percent wider than last year. Retail prices of market basket foods will probably average around  $4\frac{1}{2}$  percent higher in 1970 than in 1969. This compares with a rise of about 5 percent last year.

#### Commodity Highlights

Beef: Continued strong consumer demand in the first quarter lifted beef prices at all levels over fourth quarter levels. The retail price of Choice beef averaged 98.1 cents per pound in the first quarter--up 1.8 cents from the fourth quarter last year. The farm value increased 3.5 cents (table 3). This rise was only partially reflected in the retail price because the farm-retail spread decreased. The spread averaged 36.6 cents in the first quarter of this year--a decrease of 1.7 cents from the previous quarter. Spreads for Choice beef averaged 38.2 cents during the last half of 1969 compared with 29.8 cents during the first half. The decrease from the fourth quarter was in the carcass-retail spread which is primarily the retailer's margin. The farm-carcass spread, primarily the packer's margin, increased.

Pork: Sharply reduced supplies and strong demand for pork boosted farm and retail prices. The retail price of pork averaged 81.8 cents per pound in the first quarter--up 3.0 cents from the previous quarter and 13.3 cents more than a year earlier (table 3). The farm value of pork did not increase as much, thus the

farm-retail spread widened from the previous quarter and a year earlier. The farm-carcass (wholesale) spread decreased slightly. In contrast, the carcass (wholesale)-retail spread increased significantly. Commercial pork production was about 9 percent smaller in the first quarter of this year than in the same period of 1969.

Eggs: Although production of eggs in the first quarter was up by about 2 percent from a year earlier, prices at both farm and retail levels rose sharply. Prices at both levels have risen sharply in each quarter since the second quarter of 1969. Farm-retail spreads for eggs increased, but much less than prices. Spreads widened more in the first quarter of this year than in any quarter last year.

Retail prices for Grade A large eggs averaged 75.0 cents per dozen in the first quarter this year--up 17 percent from a year earlier; farm value averaged 50.3 cents--up 21 percent; and the farm-retail spread averaged 24.7 cents--an increase of 12 percent.

Fresh Vegetables: The retail cost of fresh vegetables rose 6 percent in the first quarter of 1970 over the previous quarter as a result of a sharp increase in the marketing spread. Farm value declined slightly.

Prices of most fresh vegetables in the first quarter of this year were considerably higher than a year earlier. Retail prices were up 12 percent, farm values 15 percent, and the marketing spread 10 percent. Compared with the first quarter last year, increases in farm-retail spreads for major vegetables were as follows: green peppers, 30 percent; celery, 23 percent; carrots, 21 percent; potatoes, 12 percent; lettuce, 8 percent; and tomatoes, 7 percent. In contrast, the spread for onions decreased 9 percent (table 14, p. 33).

Table 3.--Beef, pork, and lamb: Retail price, carcass value, farm value, farm-retail spread, and farmer's share of retail price, annual 1967-69, quarterly 1969-70 <sup>1/</sup>

Date	Retail price	Carcass	Gross	Byproduct	Net	Farm-retail spread			Farmer's share
	per pound 2/	value 3/	farm value 4/	allowance 5/	farm value 6/	Total	Carcass- retail	Farm- Carcass	
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Percent
Beef, Choice grade									
1967 .....	82.6	59.4	57.0	4.0	53.0	29.6	23.2	6.4	64
1968 .....	86.6	63.1	60.5	3.8	56.7	29.9	23.5	6.4	65
1969 .....	96.3	68.7	66.9	4.7	62.2	34.1	27.6	6.5	65
1969									
Jan.-Mar. ..	90.1	66.1	63.7	4.0	59.7	30.4	24.0	6.4	66
Apr.-June ..	97.8	74.6	73.3	4.8	68.5	29.3	23.2	6.1	70
July-Sept. .	101.0	69.7	67.9	5.1	62.8	38.2	31.3	6.9	62
Oct.-Dec. .	96.3	64.3	62.8	4.8	58.0	38.3	32.0	6.3	60
1970									
Jan.-Mar. ..	98.1	68.6	66.4	4.9	61.5	36.6	29.5	7.1	63
Apr.-June ..									
July-Sept. .									
Oct.-Dec. .									
Pork									
1967 .....	67.2	51.5	37.3	2.5	34.8	32.4	15.7	16.7	52
1968 .....	67.4	51.7	36.7	2.2	34.5	32.9	15.7	17.2	51
1969 .....	74.3	58.5	45.5	3.2	42.3	32.0	15.8	16.2	57
1969									
Jan.-Mar. ..	68.5	52.8	38.4	2.6	35.8	32.7	15.7	17.0	52
Apr.-June ..	71.9	56.5	43.5	2.9	40.6	31.3	15.4	15.9	56
July-Sept. .	78.0	62.1	50.3	3.5	46.8	31.2	15.9	15.3	60
Oct.-Dec. .	78.8	62.7	49.8	3.8	46.0	32.8	16.1	16.7	58
1970									
Jan.-Mar. ..	81.8	64.7	52.3	4.1	48.2	33.6	17.1	16.5	59
Apr.-June ..									
July-Sept. .									
Oct.-Dec. .									
Lamb, Choice grade									
1967 .....	87.4	62.8	54.4	5.8	48.6	38.8	24.6	14.2	56
1968 .....	93.6	68.2	60.0	6.4	53.6	40.0	25.4	14.6	57
1969 .....	101.8	74.8	66.9	7.6	59.3	42.5	27.0	15.5	58
1969									
Jan.-Mar. ..	96.7	71.6	64.4	8.2	56.2	40.5	25.1	15.4	58
Apr.-June ..	101.0	77.2	68.0	8.0	60.0	41.0	23.8	17.2	59
July-Sept. .	105.2	76.3	67.6	6.9	60.7	44.5	28.9	15.6	58
Oct.-Dec. .	105.8	74.2	67.6	7.3	60.3	45.5	31.6	13.9	57
1970									
Jan.-Mar. ..	106.6	73.6	68.0	7.9	60.1	46.5	33.0	13.5	56
Apr.-June ..									
July-Sept. .									
Oct.-Dec. .									

<sup>1/</sup> Data for beef and pork have been extensively revised. For discussion of the revision see article in the November 1969 issue of *Marketing and Transportation Situation*. <sup>2/</sup> Estimated weighted average price of retail cuts. <sup>3/</sup> For quantity equivalent to 1 lb. of retail cuts: Beef: 1.41 lb. or carcass beef; pork, 1.07 lb. of wholesale cuts; lamb, 1.18 lb. of carcass lamb. <sup>4/</sup> Payment to farmer for quantity of live animal equivalent to 1 lb. of retail cuts: Beef, 2.28 lb.; pork, 1.97 lb.; lamb, quantity varies by months from 2.42 lb. in May to 2.48 lb. in October. <sup>5/</sup> Portion of gross farm value attributed to edible and inedible byproduct. <sup>6/</sup> Gross farm value minus byproduct allowance.

## FOOD COSTS; 1960'S IN PERSPECTIVE

Denis F. Dunham  
Marketing Economics Division

**ABSTRACT:** Food costs rose substantially in the 1960's, particularly in the latter half of the decade. In 1969, the retail cost of the USDA market basket of farm food was 19 percent higher than in 1957-59. This reflected both an increase in the farm value of foods and the marketing margin. The rapid growth of the economy and the inflationary pressures that developed largely explain the increase in food costs. Despite rising food costs, consumers spent a declining percentage of income for food every year during the 1960's.

**KEY WORDS:** Food marketing margin, farm value of food, marketing costs, market basket of farm foods, food expenditures.

During the 1960's, food required a continuously smaller share of total personal income, but food still remains the most important single item of consumer expenditures. Thus, any significant change in food prices is of considerable public interest. The 1960's were marked by increases in food prices, particularly in the last half of the decade. The purpose of this article is to put these increases in perspective in terms of changes in food supplies, rising costs of producing and marketing food, and changes in the overall price level. In this review, considerable use will be made of the market basket statistics regularly published in this publication.

Developments in food prices during the 1960's should be viewed in the context of the overall economy. The 1960's were a period of continuous growth of the economy. Total real output of goods and services, or GNP, increased nearly 50 percent, or around  $4\frac{1}{2}$  percent per year. Real per capita income (after taxes and allowing for changes in the price level) rose every year, and in 1969 was 31 percent higher than in 1960. Unemployment declined from 5.5 percent in 1960 to 3.5 percent in 1969, the lowest rate since 1953.

Growth of the economy brought exceptional gains in production, employment and incomes, but put considerable pressure on

the cost and price structure of the economy. Pressure on costs and prices developed in the mid-1960's when the rate of economic expansion began to grow faster than the supply of productive resources, such as skilled labor. Meanwhile, rising consumer incomes boosted consumer demand. Beginning about 1964, the GNP price deflator, the broadest measure of price change in the economy, increased by a larger percentage each year, and in 1969 rose 4.7 percent.

The rapid growth of the economy and the inflationary pressures that developed go a long way toward explaining rising food prices. In a competitive economy, prices tend to reflect the costs of doing business. The facts presented here show a close parallel between changes in retail food prices and fluctuations in production and marketing costs.

### Review of Food Prices in the 1960's

Developments in food prices during the 1960's were sharply different before and after 1964 (Figure 1). In the first half of the decade, the retail cost of the market basket of farm foods rose less than 1 percent per year. However, in 1965, the retail cost increased  $2\frac{1}{2}$  percent and in 1966 the cost rose  $5\frac{1}{2}$  percent, the largest annual increase since 1951. The increases in these 2 years resulted mainly from a strong advance in demand, spurred



by rising personal incomes, coupled with reduced supplies of several foods, primarily meats and fresh vegetables.

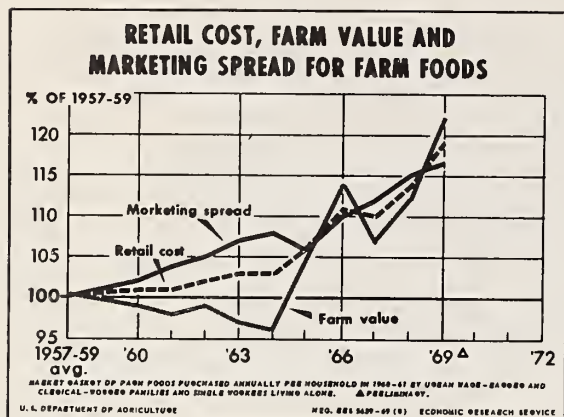


Figure 1

Retail prices of farm foods dipped slightly in 1967 as large supplies and declining prices of farm products more than offset the effect of continued strong consumer demand. Prices, however, went up abruptly again in 1968 and 1969. Altogether, the retail cost of farm foods rose 19 percent during the 1960's with most of the increase occurring after 1964.

Retail prices of all major food groups were higher in 1969 than in 1957-59. Meat prices were up about 25 percent; dairy products, 20 percent; bakery and cereal, 16 percent; processed fruits and vegetables, 12 percent; and poultry and egg prices, 3 percent. The largest price rise was in fresh fruits and vegetables, up 39 percent.

An important question is how changes in food prices compared with changes in prices of other consumer goods and services. Prices of practically all goods and services increased during the 1960's, particularly in the latter half of the decade. Because the food industry is interconnected with other sectors of the economy, and because food is the consumer's largest single expenditure, food prices tended to parallel changes in the overall price level.

The BLS Consumer Price Index increased every year during the 1960's and in 1969 was nearly 28 percent above the base period of 1957-59 (Figure 2). By comparison, the price index of all food rose about 26 percent. This figure includes price changes for both food purchased for home use (that purchased in grocery stores and other food stores) and food purchased in restaurants and other eating places. Prices of food at home rose 22 percent compared with an increase of 45 percent for food in restaurants. Prices of restaurant food rose in much the same way as prices of services, which increased 44 percent. Although all food prices went up about as much as the overall CPI, prices of food at home stayed below the overall price level during the entire decade.

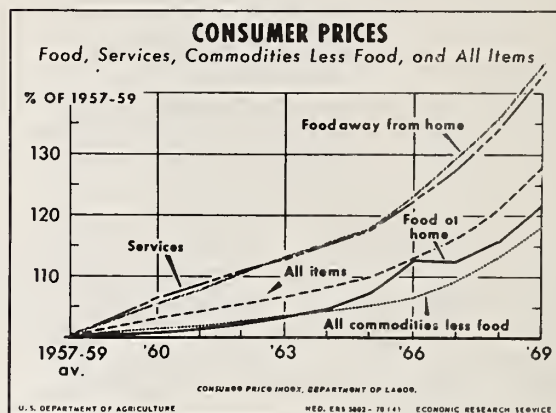


Figure 2

### Farm Value of Foods

Changes in prices of farm food commodities were more extreme than variations in retail food prices during the 1960's. While the retail price of food trended upward during the first half of the 1960's, farm prices remained steady or declined. In 1964, the farm value of the market basket was slightly lower than in 1959, and 15 percent below the 1947-49 level. As a result of the decline in farm prices while retail prices were going up, the farmer's share of the food dollar dropped to a low of 37 cents in 1963 and 1964.



Farm prices in the latter half of the 1960's contrasted sharply with the long-term trend. Increased demand for food products coupled with reduced production of some foods caused farm prices to rise significantly in 1965 and 1966. Reduced supplies of livestock products resulted in sharply higher farm prices. Demand for food was strengthened by rapidly rising per capita personal income, increased exports of food, and increased food procurement by the military. While farm prices had very little effect on food prices in the early 1960's, they were the cause of all the increase in the retail cost of the market basket in 1965 and slightly over half of the rise in 1966.

Farm prices dropped sharply in 1967 as a result of a much larger than usual (8 percent) increase in total supplies of food commodities. As a result of the dip in farm prices, the retail cost of the market basket declined for the first and only time during the decade.

Farm prices rebounded in 1968 as strong consumer demand more than offset an increase of 2 percent in total supplies of food commodities. Demand continued strong in 1969 and prices rose sharply. The farm value of the market basket averaged nearly 10 percent higher in 1969 than in 1968. Meat products were the main source of price strength.

As a result of the rise in farm prices the past few years, the farm value of the market basket in 1969 was 23 percent above 1957-59, but was only 8 percent above the 1947-49 level. The farmer's share of the consumer's food dollar at 41 cents was 2 cents higher in 1969 than in 1957-59 but was 9 cents less than in 1947-49.

As a result of the general upturn in farm prices in the second half of the decade, the farm values of most major food groups in the market basket were higher in 1969 than in 1957-59. The farm value of fresh fruits and vegetables was up 41 percent; meat and dairy products, 30 percent; processed fruits and vegetables, 25 percent; and bakery and cereal

products, 10 percent. In contrast, the farm value of poultry and eggs averaged 3 percent lower in 1969 than in 1957-59, and fats and oils were down 10 percent.

Although farmers received higher prices for food commodities in recent years, they were faced with sharply rising costs of production (Figure 3). Between 1964 and 1969, production costs went up about 3 times as much as during the early 1960's. In 1969, prices paid by farmers for production items, interest, taxes, and wage rates were 31 percent above the 1957-59 level.

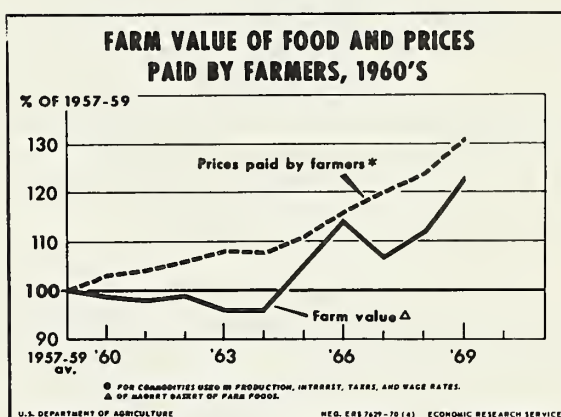


Figure 3

### Marketing Spread

The marketing spread (difference between the retail cost and farm value of the market basket) increased steadily during the 1960's, continuing the uptrend. In any discussion of rising food prices, a great deal of attention is focused on the spread because of its long-term upward trend and importance in the retail cost of food. Since the spread makes up around three-fifths of the retail cost of the market basket, a change in the spread affects food costs more than does an equal percentage change in farm value.

All of the increase in the retail cost of the market basket between 1959 and 1964 resulted from a widening in the spread and the increase in retail costs would probably have been greater had

prices at the farm not declined. The increase in the spread was 5 percent during the period, about the same as the increase in the general price level.

Following a slight decline in 1965, the marketing spread increased between 2 and 3½ percent per year the remainder of the decade. Percentage increases in the spread were much less, however, than increases in the farm value and retail cost. This was consistent with developments during other inflationary periods. During inflation, both farm prices and the spread tend to rise, but the spread usually goes up more slowly than farm prices. On the other hand, increases in farm prices usually last a much shorter time than advances in marketing charges.

Increases in the marketing spread had a significant effect on the retail cost of the market basket in the last half of the 1960's. However, since 1964, increases in farm value had a greater effect every year except 1967.

Marketing spreads for all food groups were higher in 1969 than in 1957-59. The largest increase in the spread was for fruits and vegetables, up 38 percent. Spreads for meat products and bakery and cereal products were 18 percent higher; dairy products, 13 percent; poultry and eggs, 11 percent; and processed fruits and vegetables, 9 percent.

Higher costs of performing marketing operations largely explain the increase in the marketing spread. Figure 4 shows that the marketing spread went up in roughly the same manner as labor and other marketing costs. Hourly earnings of employees in food marketing rose slightly over 50 percent during the 1960's, and were only partially offset by increases in productivity. As a consequence, unit labor costs went up around 34 percent. Prices of other inputs used by the food industry also increased during the decade. Prices of intermediate goods and services increased around 25 percent over the 1957-59 base period. Services, which include such items as rent, property insurance and maintenance, and telephone service, increased most, or about 45 percent. The

increase in prices of goods such as containers and packaging materials was more modest, around 12 percent.

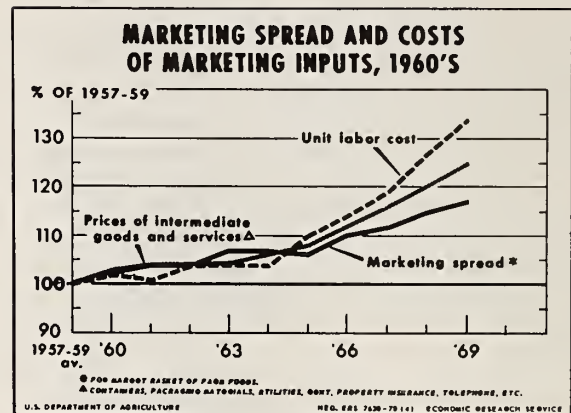


Figure 4

One of the sharpest cost increases during the decade was in interest rates. Both short-term and long-term interest rates rose markedly in the past several years. Rail transportation rates, which declined in the early 1960's, have increased several times since 1967.

Profits of food marketing firms do not seem to have been a major factor increasing the marketing spread in the past decade. Profit ratios of retail food chains trended downward during the decade and in 1969 were at the lowest level for the period. Profit ratios of food manufacturers averaged 2.4 percent of sales compared with 2.2 percent in 1957-59.

#### Food Expenditures in Relation to Income and Wages

Consumers spent \$511 per person for all food in 1969, 34 percent more than in 1957-59. This increase was slightly more than the rise in food prices during this period. The large increase in expenditures apparently resulted from shifts to more expensive foods, and the addition of more services to food, including more away-from-home eating.

Although expenditures for food increased considerably during the 1960's,

the increase was less than the gains in personal incomes. Per person disposable income (after taxes) increased from \$1,846 in 1957-59 to \$3,099 in 1969--an increase of 68 percent. As a result of the increase in income, the percentage of income spent for food declined steadily during the 1960's. In 1957-59, consumers spent 20.6 percent of their income for foods. In 1969, it was down to 16.5 percent. This allowed consumers to raise their standard of living by spending a larger proportion of their income for other goods and services, while, at the same time, consuming more high quality foods and more foods in convenient to use forms.

Another way to view the cost of food is in terms of the amount of various foods the average wage earner can buy with an hour's wages. Figure 5 shows what the earnings of 1 hour of factory labor would buy in the retail food store

in 1969 as compared with 1957-59. For example, the average wage earner could purchase 3.3 pounds of Choice beef (all cuts) in 1969 with 1 hour's wages compared with 2.7 pounds in 1957-59.

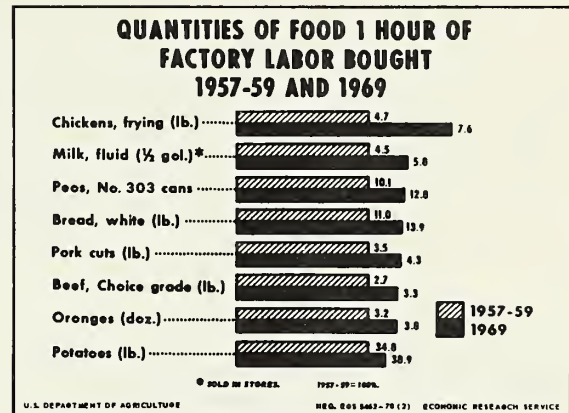


Figure 5

## SALES AND PROFITS OF CORPORATIONS MANUFACTURING FARM PRODUCTS

Corporations manufacturing agricultural products include food and beverage manufacturers (food and kindred products industry) and manufacturers of tobacco, textile, and apparel products.

Sales of agricultural manufacturing corporations increased 10 percent last year and profits rose 5 percent, according to data compiled by the Securities and Exchange Commission and the Federal Trade Commission (table 4). By comparison, sales and profits for all manufacturing corporations, except newspapers, increased 10 and 4 percent, respectively. The increase in profits was due largely to increased sales volume rather than higher profit margins.

Sales and profits of food manufacturers increased 10 percent in 1969 over 1968. Dairy manufacturers' sales increased 13 percent and profits increased 11 percent. Sales and profits of bakery manufacturers declined by 3 and 28 percent, respectively.

Corporations manufacturing agricultural nonfood products also increased sales in 1969 over 1968. Profits increased for tobacco and apparel manufacturers, but declined for textile manufacturers.

The decline of profit margins was greater for all corporate manufacturers, except newspapers, than for corporations manufacturing agricultural products. Profits (after taxes) as a percentage of sales of corporations manufacturing food averaged the same in 1969 as in 1968 (2.4 percent). However, profits as a percentage of stockholder equity increased slightly as a result of increased profits relative to net worth. Profits (after taxes) as a percentage of sales and of stockholder equity of corporations manufacturing alcoholic beverages declined.

Corporations manufacturing nonfood agricultural products had lower profits as a percentage of sales in 1969 than in 1968. Profits as a percentage of stockholder equity were lower for textile and apparel manufacturers, but higher for tobacco manufacturers.



Table 4.--Sales, net profits (after taxes) and profit ratios for corporations manufacturing farm-originated products, 1968-69 1/

Industry	Sales		Net profit (after taxes)	
	1968	1969	1968	1969
----- Million dollars -----				
Food and Kindred Products .....	84,838	92,950	2,209	2,382
Food <u>2/</u> .....	75,930	83,362	1,804	1,985
Dairy .....	12,210	13,773	278	308
Bakery .....	5,442	5,272	142	102
Other food <u>3/</u> .....	58,278	64,317	1,384	1,575
Alcoholic beverages .....	8,908	9,588	405	397
Nonfood Products				
Tobacco products .....	7,859	9,162	436	475
Textile products .....	20,841	21,780	654	621
Apparel .....	20,718	22,687	507	523
All manufacturing, except newspapers ...	631,911	694,584	32,069	33,248
Industry	Profits as a percentage of sales		Profits as a percentage of stockholder's equity	
	1968	1969	1968	1969
----- Percent -----				
Food and Kindred Products .....	2.6	2.6	10.8	10.9
Food <u>2/</u> .....	2.4	2.4	10.7	11.0
Dairy .....	2.3	2.2	9.8	10.1
Bakery .....	2.6	1.9	11.7	8.6
Other food <u>3/</u> .....	2.4	2.4	10.8	11.4
Alcoholic beverages .....	4.5	4.1	11.1	10.4
Nonfood Products				
Tobacco products .....	5.5	5.2	14.4	14.5
Textile products .....	3.1	2.9	8.8	7.9
Apparel .....	2.4	2.3	13.0	11.9
All manufacturing, except newspapers ...	5.1	4.8	12.1	11.5

1/ Compiled from data in Quarterly Financial Report for Manufacturing Corporations, 1968-69 issues, published by the Federal Trade Commission and Securities and Exchange Commission.

2/ Food and kindred products excluding alcoholic beverages.

3/ Food less dairy and bakery.



## FARM PRODUCTS IN ADHESIVE-BONDED NONWOVEN FABRICS

Clarence A. Moore  
Marketing Economics Division

**ABSTRACT:** *The first adhesive-bonded nonwoven fabrics were made of cotton fiber and starch binder. Cotton now comprises less than 10 percent of total fiber consumed by the industry and starch use is negligible. Manmade fibers have more than half the 175 million pound annual fiber market. Acrylic materials are gaining favor in the 75 million pound annual binder market. The nonwoven manufacturing industry's growth is projected at a 12-15 percent annual rate. Improvements must be made if cotton and starch are to gain favor as raw materials in nonwoven manufacture.*

**KEY WORDS:** *Nonwoven fabrics, binder materials, disposable fabrics, cotton fiber, and starch binder*

The development of adhesive-bonded nonwoven fabrics during the 1930's was by cotton textile mills trying to "up value" cotton waste fiber. Most of the early ones marketed were a mat of cotton fibers bonded with starch. As production increased, cotton and starch lost out in competition with synthetic fibers and binders. Some agricultural research leaders feel there may yet be opportunity for natural fibers and farm-derived binders to recoup a portion of the rapidly expanding nonwoven market. This article evaluates their competitive situation in the market and provides some insight where improvements may make them more acceptable to manufacturers.

Nonwoven fabrics are sometimes confused with disposable soft goods. However, the disposable type of nonwoven fabric is somewhat less than half of total nonwovens and is only a small portion of total disposables.

Adhesive-bonded nonwoven fabrics discussed in this article comprise about one-fourth of total nonwovens as defined in some recent studies. <sup>1/</sup> The nonwoven industry is more appropriately viewed as specialized segments of several industries, the products are heterogeneous,

and the technology is undergoing rapid change and improvement. Because most producing firms view their binder mixtures and processes as strictly proprietary, data are meager. Data used in this article are only approximate but the most reliable presently available.

#### Industry Growth

Only a few thousand pounds of adhesive-bonded nonwoven fabrics were being produced annually by the end of World War II. Production grew to 50 million pounds by the mid-1950's, passed 100 million pounds annually about 1960, and was estimated by knowledgeable people in the industry at about 230 million pounds in 1969.

Two end-product developments had benchmark impacts on industry growth. First, the development and market acceptance of a nonwoven apparel interlining material occurred in the early 1950's. This proved that reusable, more durable and higher priced nonwovens could successfully compete with other fabrics in special markets and initiated the use of higher priced synthetic binders and fibers in producing better quality products. Second, the "paper dress"

<sup>1/</sup> Millman, George E., "The Expanding Market for Nonwovens in the United States," The Chase Manhattan Bank, N. A., New York, Feb. 1969.

publicity a decade later turned the mass consumer spotlight on nonwovens.

Technological improvements in raw materials (particularly in binder formulations) and in production processes made it possible for the industry to capitalize opportunities as they materialized in the market. As output has grown, more firms have entered production. Less than 15 firms were involved in the latter 1940's, about 30 were producing by the mid-1950's and it is estimated some 65 firms were producing nonwoven fabrics in 1967.

#### Fiber Used

Nonwovens bypass operations involved in spinning fibers into a yarn and weaving, knitting or otherwise constructing a fabric from the yarn. The fabric

is made directly by bonding together a mat of fibers. Fibers make up roughly 70 percent and binders 30 percent of the weight of adhesive-bonded nonwoven fabrics. <sup>2/</sup> Fibers range from less than 50 percent of the finished weight in some fabrics to over 90 percent in others.

Cotton was used exclusively in the early nonwovens. Rayon appeared quite early and was popular. These two were the main fibers used until the mid-1950's when manmade fibers began to comprise an increasing proportion of the total, cotton declining from 20 percent to less than 10 percent and rayon declining from 50 to 40 percent of total fibers (Figure 6).

A large proportion of the adhesive-bonded nonwoven fabrics are made by

<sup>2/</sup> Moore, C. A., and Hester, O. C. Natural Fibers in Nonwoven Manufacture, ERS-437, Econ. Res. Serv., U.S. Dept. Agr., Washington, D.C., Jan. 1970.

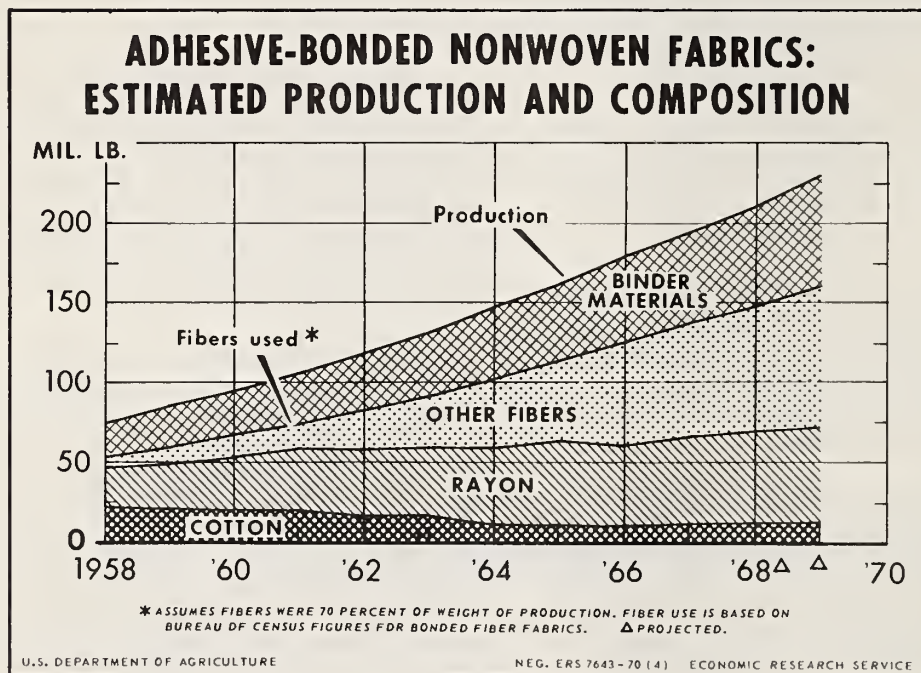


Figure 6

blending two or more fibers. Cotton is considered in competition with other fibers in uses that comprise 70-75 percent of the total market. Cotton and rayon, for example, are considered competitively strong in the sanitary and medical nonwoven fabric end uses--the largest product category today, and the one that many believe has the greatest potential. The main competitive factor in cotton use is its low market price. However, an additional cost is incurred in cleaning. Rayon's market price is only slightly above raw cotton but it does not need cleaning.

#### Binder Use

Use of additive-type binders in adhesive-bonded nonwoven fabric was around 20 million pounds in 1958, about 50 million pounds annually in the mid-1960's, and currently is estimated at about 75 million pounds. Bonding agents vary from 10 to 60 percent of the finished weight for most of the fabrics. The

binder system is at least as important as fibers in obtaining desired properties in the end product. Two or more bonding agents are often combined, and other chemicals added to the binder emulsion to attain the desired finished product.

Rough estimates of annual consumption by kind of binder are in table 5. Some industry spokesmen believe acrylic materials are more important than shown. Their use is increasing. Polyvinyl acetate was more popular in the early growth of nonwoven fabrics and still retains a sizable part of the binder market.

While starch was one of the earliest binders, only a small amount is used at present. It is easy to apply and has good strength but results in a stiff, brittle and nonpermanent material. Its present use is limited to some low-cost disposable materials and possibly as a preliminary binder to hold the web structure together during processing of some materials.

Table 5--Estimated use of binder materials in nonwoven fabrics.

Binder Material	Consumption*	
	Volume	Share
		of total
	<u>Mil. Lbs.</u>	<u>Percent</u>
Acrylic copolymers.....	23	31
Polyvinyl chlorides.....	19	25
Polyvinyl acetate.....	11	15
Nitrile rubber latex.....	10	13
Butadiene-styrene.....	8	11
Others.....	4	5
Total.....	75	100

\*Data are rough estimates by author. The most recent trade estimates in the literature (3/, for example) were used but adjustments were made to reflect current consumption. The adjustments were influenced by industry spokesmen's opinions of trends.



However, the popular binder materials are priced 5 to 10 times as high as starch. Consequently, there seems to be a potential for starch to gain a share of the market. Some modification would most likely be necessary to strengthen its performance and potential use, but the sizable price margin allows room for improvement.

Starch's greatest potential for use in nonwoven fabrics is probably in the lower cost materials, the one-time-use disposables, in competition with polyvinyl chlorides and polyvinyl acetates, in materials made of cotton and rayon (with which it is most compatible), and in combination with other binder agents.

#### Growth Potential for Nonwoven Fabrics

Industry spokesmen are optimistic about growth potentials for nonwoven fabrics now made basically out of synthetic fibers. Millman (1/) estimates a 12 percent annual growth rate, viewed as rather conservative by many industry people. At that rate, however, the industry could produce some 500 million pounds by the mid-1970's, using about 350 million pounds of fibers and 150 million pounds of binders.

The industry could grow much faster if some of the large markets being wooed today should make a rapid shift to nonwovens. The thought that prevails in the industry is that market potential is in billions rather than in millions of pounds. The thinking is supported by figures difficult to dispute.

Consider only one item in the apparel line, the disposable dress. There are presently about 104 million potential users. If each potential customer used 4 disposable dresses per week, averaging 2 square yards per dress (5 square yards equal 1 pound), the market would amount to about 8.6 billion pounds of nonwovens. It is, of course, unlikely all women would turn exclusively to disposable dresses, but a 10 percent saturation of the market would amount to 860 million pounds and a 1 percent penetration to 86 million pounds. These are more rea-

listic potentials and for only one item of wear for only half the population.

The graduation cap and gown is an example of a specific apparel item whose market the nonwoven fabric industry has high hopes of capturing. Disposable caps and gowns are said to cost no more than the rental cost of their woven counterparts, to involve much less nuisance (checking in and out time for rentals), and to be lighter, more comfortable and cooler to wear. Initial response to their use has been favorable.

Some industry spokesmen believe industrial and institutional markets have more potential than consumer markets. It is estimated that some 60 million pounds of sanitary and medical nonwoven materials were produced in 1967. Other common use items in the medical and hospital field that are considered replaceable by nonwoven disposable fabrics (such as bedsheets, pillow cases, draw sheets, bath towels, and examination gowns) were estimated by McSweeney 3/ to comprise an annual market of about 275 million yards (55 million pounds at 5 yards per pound) at only a 1 percent penetration. This adds to 550 million pounds with a 10 percent penetration and 5.5 billion pounds at saturation. Saturation of this market is more likely than that of the women's dress market. Increasing cost of help and services, and problems of maintaining high sanitary standards favor disposables.

Laundry rental services provide a means of estimating a part of the industry market. It could amount to 2 billion pounds annually. Disposable sheets for the hotel and motel industry could add about 2 billion pounds to the nonwoven fabric market. Pillow cases, towels, and other such items used in hotels and motels would further enlarge that figure.

These few examples indicate that the "billions not millions" potential exists. Many believe its rapid attainment is both economically and technically feasible. It is sufficient to excite the imagination of those seeking markets for cotton and starch.

3/ McSweeney, Edward. "Which Way Will the Paper Tiger Jump?" Pulp and Paper, Dec. 5, 1966, p. 38.



## MARKETING MARGINS FOR SELECTED DAIRY PRODUCTS AND THEIR SUBSTITUTES

Herbert H. Moede  
Marketing Economics Division

**ABSTRACT:** Dairy products such as fluid milk, cream, sour cream, ice cream and ice milk are being confronted with competition from substitute products. Generally, substitutes contain vegetable fat in place of milk fat in regular dairy products. Some substitutes do not contain any dairy ingredients. Prices and marketing margins for the substitutes are typically lower than those for the traditional dairy item. They tend to reflect the wide difference in the cost of milk fat as compared to the cost of vegetable fats.

**KEY WORDS:** Dairy substitutes, dairy substitute ingredient costs, milk and milk substitute marketing margins.

For producers of dairy products, the 1960's were a period of challenge. Dairy products encountered strong market competition from substitutes. For example, sales of cream items declined from 9.1 pounds per capita in 1960 to an estimated 5.9 pounds in 1969. <sup>1/</sup> Undoubtedly, this decline was greatly influenced by the introduction of liquid and frozen coffee whiteners during the early part of the decade. Substitute coffee whiteners took an estimated 35 percent of the market for all cream items by the late 1960's. <sup>2/</sup> Fluid milk, ice cream, ice milk, sour cream and whipping cream also encountered marketing problems resulting from the introduction of substitutes or increased merchandising efforts for existing substitutes such as imitation ice cream and imitation ice milk. These latter products were not considered new in the 1960's since they were previously available in a limited number of States. In addition, butter has faced serious competition from margarine since before World War II. Increases in margarine sales have displaced a significant volume of butter because for many persons it is a complete substitute for butter.

This article examines the variations in ingredient costs, retail prices, and marketing margins between selected dairy products and substitutes.

#### Composition and Ingredient Cost

Substitute dairy products generally contain vegetable fat in place of the milk fat of the natural dairy product. Some substitutes contain no dairy ingredients, consisting of a vegetable fat and a blend of chemical products which act as body, sweetening, protein, emulsifying and buffering agents. Some substitute products use sodium caseinate as a protein source. Although sodium caseinate is made from milk, it is considered a chemical product not falling within the term "dairy products" as defined in the Federal Filled Milk Act.

The composition and estimated ingredient costs to make 100 pounds of selected types of dairy products are presented in table 6. The same information for substitutes generally used to replace these dairy products is shown in table 7.

<sup>1/</sup> Dairy Situation, U.S. Dept. Agr., D.S. 328, November 1969, p. 22.

<sup>2/</sup> D. L. Call. "Impact of Meat Analogs on the Livestock Industry." Feedstuffs, November 4, 1967, p. 74.

Table 6.--Composition and estimated ingredient cost of 100 pounds of selected dairy products, 1969

Product and estimated ingredient cost	Unit	Milk fat	Fluid skim milk	Other ingredients 1/	Total
Whole milk:					
Composition .....	lbs.	3.5	96.5	---	100.0
Ingredient cost .....	\$/cwt.	2/2.97	2/3.81	---	6.78
Coffee cream:					
Composition .....	lbs.	18.0	82.0	---	100.0
Ingredient cost .....	\$/cwt.	2/15.29	3.23	---	18.52
Whipping cream:					
Composition .....	lbs.	30.0	70.0	---	100.0
Ingredient cost .....	\$/cwt.	2/25.48	2/2.76	---	28.24
Sour cream:					
Composition .....	lbs.	18.5	80.0	1.5	100.0
Ingredient cost .....	\$/cwts.	2/15.71	2/3.16	1.05	19.92
Ice cream:					
Composition .....	lbs.	10.0	74.7	15.3	100.0
Ingredient cost .....	\$/cwt.	3/8.05	3/1.13	1.90	11.08
Ice milk:					
Composition .....	lbs.	4.0	80.5	15.5	100.0
Ingredient cost .....	\$/cwt.	3/3.22	3/1.22	2.09	6.53

1/ Includes sweeteners, starter cultures, and/or emulsifiers where required.

2/ Based on prices paid by dealers for milk used in fluid products. 1969 average = \$6.78 per cwt. (3.5% B.F.) and a butterfat differential of 8.1 cents which result in the following prices for the 2 components of milk. Nonfat fluid skim = 3.945¢/lb. Butterfat = 84.945¢/lb.

3/ Based on prices paid for manufacturing grade milk. 1969 average = \$4.28 cwt. (3.5% B.F.) and a butterfat differential of 7.9 cents which result in the following prices for the 2 components of milk. Nonfat fluid skim = 1.515¢/lb. Butterfat = 80.515¢/lb.

Formulations for the dairy items and their substitutes in these tables are representative of products currently being sold. They do not necessarily reflect the composition of a particular product sold by a specific manufacturer.

Among products where imitations and substitutes appear to be economically attractive, significant cost differences exist between the fat component of the natural dairy product and its substitute.

The cost of fat used in the listed natural dairy products ranged from 44 to 90 percent of total ingredient cost. For substitutes, it represented from 16 to 68 percent of the total ingredient cost. The cost of milk fat in the natural dairy products was from 2 to 5 times the cost of the vegetable fat used in the substitutes. This results from the fact that milk fat is approximately 3 1/2 times more expensive than vegetable oil. In addition, natural dairy products usually

Table 7.--Composition and estimated ingredient cost of 100 pounds of selected substitutes for dairy products, 1969

Product and estimated ingredient cost	: Unit	: Vegetable fat	: Protein agent	: Body and sweetening agent	: Other, ingredients 1/	: Water	: Total
<u>Filled milk:</u>							
Composition .....	lbs.	2/3.0	96.8	---	.2	---	100.0
Ingredient cost ....	\$/cwt.	.75	4/3.82	---	.16	---	4.73
<u>Coffee whitener (liquid or frozen):</u>							
Composition .....	lbs.	2/10.0	5/2.3	8.3	.7	78.7	100.0
Ingredient cost ....	\$/cwt.	2.50	1.20	.97	.46	---	5.13
<u>Coffee whitener (powder):</u>							
Composition .....	lbs.	2/36.0	5/5.0	56.0	2.0	1.0	100.0
Ingredient cost ....	\$/cwt.	9.00	2.62	5.43	.44	---	17.49
<u>Whipped topping:</u>							
Composition .....	lbs.	2/25.0	5/2.5	12.0	.8	59.7	100.0
Ingredient cost ....	\$/cwt.	6.25	1.31	1.31	.30	---	9.17
<u>Imitation sour cream:</u>							
Composition .....	lbs.	3/18.0	5/4.0	5.0	.5	72.5	100.0
Ingredient cost ....	\$/cwt.	3.15	2.09	.58	.56	---	6.38
<u>Imitation ice cream (mellorine):</u>							
Composition .....	lbs.	2/10.0	72.6	17.0	.4	---	100.0
Ingredient cost ....	\$/cwt.	2.50	6/1.10	1.78	.51	---	5.89
<u>Imitation ice milk:</u>							
Composition .....	lbs.	2/4.0	77.2	18.5	.3	---	100.0
Ingredient cost ....	\$/cwt.	1.00	6/1.17	1.91	.35	---	4.43

1/ Includes buffering, emulsifying, and stabilizing agents.

2/ Coconut oil.

3/ Soybean oil.

4/ Fluid skim milk Class I price of 3.945¢/lb.

5/ Sodium caseinate.

6/ Fluid skim milk for manufacturing use price of 1.515¢/lb.



contain more fat than their substitute. However, the level of fat does not affect the cost difference between the two types of products as much as the variation between the cost of milk fat and vegetable fat. Even where the fat content of the substitute product (powdered coffee whitener) is double the milk fat content of regular coffee cream, the difference between the cost of the fat used in the two products accounts for the major difference in total costs.

The cost of other components in the natural dairy products, primarily fluid skim milk, was less than the cost of other ingredients in the substitutes. In all cases, however, due to the lower cost of vegetable fat as compared with milk fat, the total ingredient cost of the substitutes is below that of the natural dairy product.

#### Retail Prices

Prices for dairy products and their substitutes compared in this article are average advertised prices which appeared in newspapers in 50 cities during May and June 1969 (table 8). Undoubtedly they reflect weekend price specials in most cases. Since most sales by retail food stores are made during the last 3 days of the week, these prices would represent the price at which substantial quantities of the selected products were sold during the period. Further, the packages in these comparisons are representative of the sizes having the greatest retail sales of the selected products.

Except for coffee cream, the average advertised price for the dairy products ranged from 35 to 62 percent above the retail price of the substitute product.

Despite moisture differences, the price for one-half pound of powdered coffee whitener and a pint of coffee cream was for all practical purposes the same (0.1 cent difference). However, the label on one powdered product currently being marketed indicates that a liquid product can be made by combining 2 parts water to 1 part powder. Using this relationship, the one-half pound quantity of powder shown in table 8 would yield about 1.14

pints of liquid coffee whitener. Thus, on a liquid-equivalent basis the price difference between a pint of coffee cream and powdered whitener would amount to an estimated 5.4 cents instead of 0.1 cent.

The difference between prices of these two products is not as great as those between the other selected dairy products and their substitutes. Thus, it appears consumers may buy powdered coffee whiteners not so much on the basis of price as on the basis of convenience in storage and shelf-life of the powdered product. In all other instances, the price differential between the natural dairy product and its substitute could be a major factor in the decision to buy the substitute.

For whipping cream and whipped topping, the price comparison is made on the basis of retail units the consumer normally buys. A comparison on an equivalent whipped volume basis was not made because of the lack of data relating to the amount of air that would be introduced by the individual consumer during the whipping process.

#### Marketing Margins

The "marketing margin," in this article, is the difference between total ingredient cost to the processor and the retail selling price. It includes all costs of processing, packaging, distribution, and selling, as well as profits.

Marketing margins for 4 of the 6 dairy products were higher than for their substitutes. Per packaged unit, they ranged from 4.6 cents greater for whole milk to 14.1 cents for ice cream. However, marketing margins for the substitute products represented a greater percentage of the retail price than they did for the natural dairy item.

In two instances, the margin for the substitute was larger than for the standard dairy product--powdered coffee whiteners (10.8 cents larger) and whipped toppings (6.5 cents larger). Except for these two products, both the regular dairy item and its substitute are generally distributed through the same marketing



Table 8.--Comparison of average advertised prices, estimated ingredient cost and marketing margin for selected dairy products and substitutes

Product	Package	Average advertised retail price	Estimated ingredient cost	Marketing margin between ingredient cost and retail price	Marketing margin as percentage of retail price
		Cents	Cents	Cents	Percent
Whole milk .....	$\frac{1}{2}$ gallon	50.8	29.1	21.7	43
Filled milk .....	$\frac{1}{2}$ gallon	37.4	20.3	17.1	46
Coffee cream .....	pint	43.3	19.6	23.7	54
Coffee whitener (liquid or frozen)	pint	20.2	5.4	14.8	73
Coffee whitener (powdered) .....	$\frac{1}{2}$ pound	43.2	8.7	34.5	80
Whipping cream .....	pint	49.9	29.4	20.5	41
Whipped topping .....	pint	31.6	4.6	27.0	85
Sour cream .....	pint	66.8	21.4	45.4	68
Imitation sour cream .....	pint	45.6	6.9	38.7	85
Ice cream .....	$\frac{1}{2}$ gallon	67.2	25.0	42.2	63
Imitation ice cream .....	$\frac{1}{2}$ gallon	41.4	13.3	28.1	68
Ice milk .....	$\frac{1}{2}$ gallon	49.0	14.7	34.3	70
Imitation ice milk .....	$\frac{1}{2}$ gallon	36.2	10.0	26.2	72

channel. Most often this is the dairy supplying the retail outlet.

Higher marketing margins for the powdered coffee whitener and whipped topping may result from the fact these products generally do not move through regular dairy product distribution channels. Powdered coffee whiteners are distributed through dry goods channels, similar to those for canned goods. Whipped topping is most likely distributed through frozen food marketing channels. Higher marketing margins for these two products than for their regular dairy counterparts imply that greater retail margins as well as possible lower distribution and storage costs could exist for

whipped toppings and powdered coffee whiteners.

Overall, the difference in the marketing margins between the natural and substitute products appears to be significantly affected by the difference in total ingredient costs. These costs, however, do not represent all of the differences between the margins for the 2 types of products. Other factors such as differences in processing, packaging, transportation and warehousing costs combined with discounting policies and wholesaling practices may play a more important role in the differences than ingredient costs.

## U.S. RAILROAD PERFORMANCE INDICATORS, 1958-67

T. Q. Hutchinson  
Marketing Economics Division

**ABSTRACT:** *Railroad output increased markedly between 1958 and 1967, accompanied by substantial increases in efficiency of labor utilization and some increases in efficiency of plant utilization. At least some of the efficiencies realized have been passed to users in the form of lower rates. The efficiencies seem to have resulted from a substitution of capital for labor.*

**KEY WORDS:** *Railroad efficiency, railroad performance.*

In 1968, railroads accounted for 41 percent of the 1.8 billion intercity ton miles generated by all modes of transportation. In second place, motor trucks produced 22 percent. 1/ During the same year nearly 116 million tons of farm products and 105 million tons of food products were placed in rail cars for delivery to the next link in the marketing chain. 2/ Nearly one-third of all meat and dairy products, and slightly over half of all other food products are shipped by rail. 3/ Thus, the performance of railroads has a significant import for the efficiency of marketing and distributing farm products. Although a specific measure of performance in transporting farm products is preferred, only general measures of performance are available. This article presents selected railroad performance indicators for 1958-67.

### Gross Output

In 1958-66, railroad output generally increased (table 9). However, in 1967, rail output--as measured by tonnage originated--decreased 2.9 percent. These data indicate that railroads' output has

increased absolutely, but give no insight into the efficiency with which output is generated.

### Financial Indicators

As might be expected, increased output has been associated with increased revenues. Expressed in current dollars, railroad operating revenues increased from \$9.6 billion in 1958 to \$10.4 billion in 1967. In the same period, railroad operating expenses increased from \$7.5 billion to \$8.2 billion. 4/ The considerable inflation that was present in the economy during that time affected these data. For a truer picture of performance, all financial data used in the remainder of this article have been deflated by the GNP implicit price deflators. These deflators are computed by the Department of Commerce by dividing GNP in current dollars by GNP in constant dollars (1958=100).

Between 1959 and 1967, railroad operating expenses in constant dollars generally declined (table 10). During the first 4 years of this period, net

1/ Government Printing Office, 83rd Annual Report of the Interstate Commerce Commission, Washington, D.C., 1969, p. 87.

2/ Government Printing Office, Freight Commodity Statistics, Statement No. 69100-A, Washington, D.C., 1968, p. 284.

3/ 1967 Census of Transportation Commodity Transportation Survey, TC67-C1-1 and 2. Dept. of Commerce.

4/ Yearbook of Railroad Facts, Association of American Railroads, Washington, D.C., April 1968.

Table 9.--Trends in railroad output, by regions, selected years 1959-67 1/

Output indicator and district	1959	1961	1963	1965	1966	1967
Tonnage originated						
Eastern district .....	104.8	97.5	107.8	116.2	117.6	114.1
Southern district .....	105.7	104.0	114.2	124.8	131.5	138.0
Western district .....	101.0	101.4	104.8	112.6	121.1	112.4
U.S. ....	103.5	100.3	107.9	116.6	121.7	118.2
Revenue ton miles						
Eastern district .....	102.2	97.8	108.1	121.7	124.6	121.1
Southern district .....	106.3	105.0	122.6	139.6	150.0	153.0
Western district .....	105.4	104.7	113.3	126.2	136.3	130.7
U.S. ....	104.3	102.1	112.7	126.5	133.8	130.4

1/ Based on Association of American Railroads, Yearbook of Railroad Facts, 1968 Edition, Washington, D.C., April 1968.

operating revenues also tended to decline. Net operating income dropped from 4 to 32 percent below 1958. Since net operating income is a major source of working capital, net working capital also trended downward in these years.

From 1963 through 1966, net operating income rose above the 1958 level even though in 3 of these 4 years operating revenues were below their 1958 level. The obvious explanation is that reduced operating expenses more than offset the reductions in operating revenue. Net working capital tended to decrease and remained below the 1958 level.

In 1967, operating expenses decreased 1 percentage point from the previous year, but operating revenues decreased 5 percentage points and net operating income declined 45 percentage points.

By 1967, operating cost per revenue ton mile decreased more than 26 percent. This seems to indicate that railroads' efficiency increased substantially during the period under study. However, we must turn to other measures to identify sources of the efficiencies.

At least a portion of these above efficiencies appear to have been passed to

users of rail transportation in the form of lower rates. The freight rate index for agricultural commodities indicates that rail rates for these commodities decreased substantially between 1958 and 1966. In 1967, the index turned upward and by 1968 had increased 3 points. The increase probably continued through 1969. The upward trend was the result of a series of general freight increases commencing in August 1967. Three general freight rate increases were put into effect between 1967 and 1969 and railroads have requested an additional increase for 1970. In view of these rate increases, it seems likely that the performance trends of the past few years have been significantly different from those shown in the study.

Regional differences: While there is a tendency to think of U.S. railroads as a single transportation system, table 10 shows substantial regional differences in financial performance. Although the Eastern railroads have been able to reduce their operating expenses relatively more than the Western or Southern roads, these reductions have generally been accompanied by even sharper reductions in revenue. As at least a partial result, the Eastern roads have had substantially greater weakening of their working capital positions than have railroads in other regions.



Table 10.—Financial performance indicators of Class I railroads, by regions, selected years 1959-67

Performance indicator and district	1959	1961	1963	1965	1966	1967
Freight revenues <u>1/</u>						
U.S. ....	101.4	91.7	94.2	98.7	101.0	96.2
Operating revenues <u>1/</u>						
Eastern district .....	100.4	88.8	90.3	93.5	93.0	87.3
Southern district .....	101.7	94.4	98.0	101.0	103.8	101.2
Western district .....	101.6	93.9	94.4	97.2	100.4	93.8
U.S. ....	101.1	91.8	93.2	96.2	97.8	92.2
Operating expenses <u>1/</u>						
Eastern district .....	99.6	90.4	88.2	88.6	88.1	86.3
Southern district .....	98.6	92.4	95.8	98.4	98.7	98.4
Western district .....	102.1	93.8	94.8	97.5	99.4	96.7
U.S. ....	100.5	92.2	92.1	93.8	94.5	92.5
Net operating income <u>1/</u>						
Eastern district .....	109.9	40.6	96.5	134.9	143.8	63.6
Southern district .....	97.0	84.0	101.9	106.1	115.2	100.1
Western district .....	88.3	77.8	98.6	103.7	108.2	74.0
U.S. ....	96.5	67.4	98.6	113.7	120.4	75.6
Net working capital <u>1/</u>						
Eastern district .....	107.6	18.8	28.9	52.6	30.2	-18.7
Southern district .....	99.5	79.3	90.7	48.7	31.5	30.7
Western district .....	92.5	72.0	125.5	86.3	67.8	48.7
U.S. ....	97.4	60.6	95.7	71.1	51.9	29.1
Operating expense per revenue ton mile <u>1/</u> .....	96.4	90.3	81.8	74.2	70.6	70.9
Freight rate index for agricultural commodities <u>2/</u> .....	94.5	90.8	85.9	78.5	75.6	74.1

1/ Based on Yearbook of Railroad Facts, Association of American Railroads, Washington, D.C. Indexes are deflated by the implicit price deflator for GNP.

2/ Deflated by implicit price deflators for GNP.

Table 11.—Labor utilization indicators of Class I railroads, by regions, selected years, 1958-67 1/

Performance indicator and region	1958	1959	1961	1963	1965	1966	1967
Car loaded per employee							
Eastern district	33.5	36.1	36.5	40.2	43.4	44.3	42.8
Southern district	48.2	52.2	55.1	58.1	65.1	66.2	69.0
Western district	34.4	35.5	38.2	39.5	41.7	43.4	41.6
U.S.	35.9	38.0	35.7	42.4	45.7	46.9	46.0
Revenue ton miles per employee							
Eastern district	0.6	0.6	0.7	0.8	1.0	1.0	1.0
Southern district	0.7	0.8	0.9	1.0	1.3	1.4	1.5
Western district	0.7	0.8	0.8	1.0	1.2	1.2	1.2
U.S.	0.6	0.7	0.8	0.9	1.1	1.2	1.2
Annual wages <u>2/</u>							
Eastern district	100.0	98.8	88.7	85.6	86.1	84.4	82.1
Southern district	100.0	98.0	89.7	90.9	88.7	88.3	88.0
Western district	100.0	100.7	90.6	88.6	88.9	88.9	87.2
U.S.	100.0	99.6	89.7	87.6	87.7	86.9	85.1
Wages paid per revenue ton mile <u>2/</u>							
Eastern district	10.0	9.7	9.0	7.9	7.1	6.7	6.8
Southern district	8.0	7.3	6.7	5.8	5.0	4.6	4.5
Western district	8.2	7.8	7.0	6.4	5.7	5.3	5.4
U.S.	8.9	8.4	7.8	6.9	6.1	5.7	5.7

1/ Based on Yearbook of Railroad Facts, Association of American Railroads, Washington, D.C.

2/ Adjusted by the implicit price deflators for gross national product.

### Labor Use

While financial data reflect the relative financial strength of an industry, they do not identify the sources of efficiency, or inefficiency, and other indicators must be sought. One such measure is output per unit of labor. Efficiency, as measured by the number of car loadings per unit of labor, increased 28 percent between 1958 and 1967 (table 11). Such a measure is incomplete, however, as loaded cars are only a part of a railroad's output. Revenue ton miles may be a better measure of output; here too, increased efficiency in labor utilization is evident. The relative increase shown by this measure is even greater, amounting to 100 percent in the same period.

Total annual wages, in terms of constant dollars, declined despite several wage increases in the period under study. This reflects the substantial reduction in employment (230,384 employees) which took place between 1958 and 1967.

Regional differences: As was the case with the financial indicators, substantial regional differences in labor productivity are evident. Both as measured by car loadings and revenue ton miles produced per unit of labor, the Southern roads have shown the greatest increases in efficiency. Since the Southern roads were as efficient or more efficient in labor use than the Eastern or Western roads in the base year (based on the two measures used) their increases in efficiency

Table 12.-Car utilization indicators of Class I railroads, by regions, selected years 1958-67

Performance indicator and district	1958	1959	1961	1963	1965	1966	1967
Net ton miles per train hour <sup>1/</sup>							
			-1,000 ton miles-				
Eastern district .....	26.8	27.2	28.5	30.7	32.2	32.9	33.8
Southern district .....	25.0	26.8	27.8	29.3	31.4	32.7	34.1
Western district .....	28.3	28.8	31.4	34.1	36.2	37.1	37.6
U.S. ....	27.1	27.9	29.7	32.0	33.8	34.7	35.5
Average speed of freight trains <sup>1/</sup>							
			-Miles per hour-				
Eastern district .....	17.4	17.3	17.7	17.9	17.7	17.5	17.5
Southern district .....	17.7	17.9	18.0	17.9	17.3	17.5	17.7
Western district .....	21.2	21.9	22.4	22.9	23.3	23.7	23.9
U.S. ....	19.2	19.5	19.9	20.1	20.1	20.3	20.3
Average daily car mileage <sup>1/</sup>							
			-Miles-				
Eastern district .....	34.1	36.0	36.2	39.5	42.7	42.8	42.2
Southern district .....	43.2	44.7	43.0	45.9	47.1	49.5	48.1
Western district .....	54.8	57.3	56.4	61.3	63.2	64.9	62.5
U.S. ....	43.6	45.9	45.5	49.2	51.7	53.0	51.5
Average daily hours of utilization <sup>2/</sup>							
			-Hours-				
Eastern district .....	2.1	2.1	2.0	2.2	2.4	2.4	2.4
Southern district .....	2.4	2.4	2.3	2.6	2.7	2.8	2.7
Western district .....	2.6	2.6	2.5	2.7	2.7	2.7	2.6
U.S. ....	2.3	2.4	2.2	2.4	2.6	2.6	2.5
Ratio of loaded to empty miles <sup>3/</sup>							
			-Percent-				
U.S. ....	1.58	1.65	1.58	1.56	1.56	1.52	1.43
Average cars per train <sup>1/</sup>							
			-Number-				
Eastern district .....	70.9	70.9	71.9	72.2	72.1	72.6	74.9
Southern district .....	68.6	69.8	70.5	69.4	70.9	72.1	72.5
Western district .....	69.9	67.6	69.3	69.3	67.6	66.5	67.2
U.S. ....	70.1	69.0	70.4	70.3	69.6	69.3	70.5
Average weight of a car load <sup>1/</sup>							
			-Tons-				
Eastern district .....	44.7	44.6	45.5	46.8	48.3	49.1	50.8
Southern district .....	45.4	45.9	47.4	49.6	52.3	53.8	55.9
Western district .....	41.4	41.2	43.2	45.0	47.7	49.2	49.2
U.S. ....	43.5	43.5	44.9	46.7	48.9	50.1	51.3
Average capacity of freight cars <sup>3/</sup>							
U.S. ....	54.8	55.0	55.7	56.8	59.7	61.4	63.4

--Continued--



Table 12.-Car utilization indicators of Class I railroads, by regions, selected years 1958-67--Continued

Performance indicator and district	1958	1959	1961	1963	1965	1966	1967
Ratio of average load to average capacity							
U.S. ....	79.4	79.0	80.6	82.2	81.9	81.5	80.9
Freight cars removed from service due to overheated bearings <sup>1/</sup>							
U.S. ....	4.99	4.94	2.54	0.98	0.73	0.59	0.54
Unserviceable freight cars <sup>1/</sup>							
Eastern district .....	9.8	11.7	12.1	9.4	6.3	5.4	5.6
Southern district .....	4.3	5.1	6.6	6.1	4.9	4.6	4.9
Western district .....	4.1	3.8	4.8	4.5	3.8	3.2	3.5
U.S. ....	6.8	7.7	8.4	7.0	5.1	4.4	4.6

<sup>1/</sup> Based on Yearbook of Railroad Facts, Association of American Railroads, Washington, D.C.

<sup>2/</sup> Assumes average daily car mileage is accomplished at average freight train speed.

<sup>3/</sup> Based on Statistics of Railroads of Class I in the United States, Association of American Railroads, Washington, D.C.

of labor use over the period are even more striking. However, such gains in labor efficiency often require considerable investment in laborsaving technology, which may or may not be economically efficient.

#### Plant Use

Other measures of efficiency include the output per unit of physical plant. For the purposes of this article, the physical plant of railroads is considered to be fixed over the period covered by these series. Obviously, this assumption is not exactly true because new investments and retirements of old investments constantly occur. However, it is approximately correct.

Railroad output per hour of train operation increased 31 percent between 1958 and 1967 (table 12). Since ton miles generated per hour are some function of train speed, it is possible that increased train speed was the chief cause of the increased output. Average train speed,

however, increased slightly more than 1 mile per hour and the average distance traversed by a rail car increased less than 8 miles per day in the same period. Car speed does not appear to be the chief cause of increased output.

Increasing the number of cars usually contained in a train or increasing the average load carried by a rail car, or both, could result in increased output per train hour. Increases in both number of cars per train and in average car capacity took place between 1958 and 1967. The increase in the former is probably not significant as the average number of cars per train in the 1958-67 period ranged between 69.0 and 70.5.

The increase in average carload weight is more significant. Average carload weight increased from 43.5 tons in 1958 to 51.3 tons in 1967, an 18 percent increase. Even so, this increase only kept pace with the increase in average rail car capacity. The ratio of average

carload weight to average car capacity remained relatively constant during the period under study. This indicates that not all of the efficiencies available to railroads from heavier car loadings have been realized. Since some commodities fill the cubic capacity of a car before the weight limit is reached it is unrealistic to expect 100 percent utilization at any time.

Certain other performance indicators deserve comment. At one time, it was necessary to remove rail cars from service due to overheated bearings, "hot boxes." In 1958, nearly five such setouts could be expected per million car miles. These setouts required delaying the entire train to repair the defect or uncouple the car. It should also be remembered that a 70 car train generates 70 car miles for each mile traveled. By 1967, the "hot box" setout rate had declined to 0.54 per million car miles.

It is also necessary to remove rail cars from service for a variety of other reasons. The number of such unserviceable cars declined since 1959, though less dramatically than the "hot box" setout rate. However, a decline in the "hot box" setout rate could be expected to result in a decline in the proportion of cars out of service.

The main service performed by railroads is moving goods from one location

to another. The proportion of the time in which rail cars are actually in transit may therefore be considered as one measure of the efficiency of railroad plant use. On the average, the estimated number of hours per day in which a rail car actually moves did not increase between 1958 and 1967.

Another such measure of car use is the ratio of loaded to empty miles traveled. This ratio declined about 13 percent between 1958 and 1967. The decline was not uniformly distributed over the period, however, and chiefly took place between 1966 and 1967. At the same time, railroads have purchased large numbers of market oriented cars. In 1967, market oriented cars comprised about one-quarter of the U.S. rail car fleet. <sup>5/</sup> These cars are intended to fill special shipper needs and frequently must move empty on the return haul. In view of the relatively large numbers of market oriented rail cars, the modest decline in the empty-loaded ratio seems impressive.

By the measures cited, the marked increase in efficiency seems to have come as a result of substituting capital for labor. These capital expenditures have taken such forms as larger cars, increased expenditures for maintenance, larger locomotives, and more miles of track with centralized traffic control.

---

<sup>5/</sup> Interstate Commerce Commission, Transport Statistics in the United States, Part 1, yearly 1959-67. Market oriented cars as used here includes, special service box cars, covered hopper cars, refrigerated cars, tank cars, and rack cars.

## SELECTED NEW PUBLICATIONS

1. "Use of Input-Output Analysis in Studying Industry Problems: Applied to Employment Changes in the U.S. Textile Industry," by Philip F. Rice and Preston E. LaFerney, U.S. Dept. of Agr., Econ. Res. Ser., Tech. Bul. No. 1411, Feb. 1970.
2. "Market Test of Dry Whole Milk: Nine Supermarkets, Lansdale, Pa. Area," by Morris Sills, U.S. Dept. of Agr., Econ. Res. Ser., ERS-433, Jan. 1970.
3. "Natural Fibers in Nonwoven Manufacture," by C. A. Moore and O. C. Hester, U.S. Dept. of Agr., Econ. Res. Ser., ERS-437, Jan. 1970.
4. "An Analysis of Opportunities for Canning Green Beans in the South," by Gene A. Mathia and James L. Pearson, North Carolina Agr. Expt. Sta., North Carolina State Univ. at Raleigh (in cooperation with U.S. Dept. of Agr., Econ. Res. Ser.), Economics Information Report No. 14, Jan. 1970.
5. "Cost of Storing and Handling Cotton at Public Storage Facilities, 1968-69, with Projections for 1969-70 and 1970-71," by Joseph L. Ghetti, Whitman M. Chandler, Jr., Edward H. Glade, Jr., and Ollie A. Cleveland, Jr., U.S. Dept. of Agr., Econ. Res. Ser., ERS-443, April 1970.
6. "What Makes Food Prices?" U.S. Dept. of Agr., Econ. Res. Ser., ERS-Series 308, revised Jan. 1970.
7. "Costs of Storing and Handling Farmers' Stock Peanuts in Commercial Facilities, 1969," by N. A. Wynn, Jr. and Donn A. Reimund, U.S. Dept. of Agr., Econ. Res. Ser., ERS-352, revised Feb. 1970.
8. "Consumers' Knowledge and Use of Government Grades for Selected Food Items," by T. Q. Hutchinson, U.S. Dept. of Agr., Econ. Res. Ser., MRR-876, April 1970.

---

: Unless otherwise indicated, items listed are Economic :  
 : Research Service publications and single copies may be :  
 : obtained free from the Division of Information, Office of :  
 : Management Services, U.S. Department of Agriculture, :  
 : Washington, D.C. 20250. :  
 :

---



Table 13.--Farm food products: Retail cost and farm value, January-March 1970, October-December 1969, January-March 1970 and 1957-59 average

Product 1/	Retail unit	Retail cost						Net farm value 2/					
		January-October		January-March		1957-59 average		January-October		January-March		1957-59 average	
		March 1970		March 1969		March 1969		March 1970		March 1969		March 1969	
		Dollars	Dollars	Dollars	Dollars	Percent	Percent	Dollars	Dollars	Dollars	Dollars	Percent	Percent
Market basket		1,224.79	1,198.96	1,138.27	982.65	2.2	7.6	505.03	3/488.03	3/453.13	387.87	3.5	11.5
Meat products		377.35	369.38	3/332.21	285.05	2.2	13.6	220.53	205.20	179.65	154.47	7.5	22.8
Dairy products		215.61	211.84	205.54	173.33	1.8	4.9	104.68	3/103.13	98.78	77.85	1.5	6.0
Poultry and eggs		105.27	101.49	3/94.07	93.02	3.7	11.9	61.11	59.34	3/54.58	56.28	3.0	12.0
Bakery and cereal products 4/													
All ingredients	Average quantities purchased per urban wage-earner and	180.02	176.10	3/171.36	148.40	2.2	5.1	34.57	33.85	3/33.06	30.55	2.1	4.6
Grain		--	--	--	--	--	--	25.10	24.93	24.70	23.40	.7	1.6
All fruits and vegetables	clerical-worker	254.45	249.82	3/247.02	202.96	1.9	3.0	64.76	3/67.09	3/67.39	50.05	-3.5	-3.9
Fresh fruits and vegetables	household	129.03	124.66	3/123.18	91.15	3.5	4.7	39.72	3/40.59	3/40.89	28.70	-2.2	-2.9
Fresh fruits		45.82	45.92	48.64	36.26	-2	-5.8	11.68	12.49	3/16.46	12.26	-6.5	-29.0
Fresh vegetables	in	83.21	78.74	3/74.54	54.89	5.7	11.6	28.03	3/28.10	3/24.43	16.44	-2	14.7
Processed fruits and vegetables	1960-61	125.42	125.16	3/123.84	111.81	.2	1.3	25.05	3/26.50	3/26.50	21.35	-5.5	-5.5
Fats and oils		38.90	38.13	37.77	37.56	2.0	3.0	10.36	3/10.32	3/10.39	11.19	.4	-3
Miscellaneous products		53.19	52.20	50.30	42.33	1.9	5.7	9.02	9.10	3/9.28	7.48	-9	-2.8
		Cents	Cents	Cents	Cents	Percent	Percent	Cents	Cents	Cents	Cents	Percent	Percent
Beef, Choice grade 5/	Pound	98.1	96.3	3/90.1	74.4	1.9	8.9	61.5	58.0	3/59.7	51.3	6.0	3.0
Lamb, Choice grade	Pound	106.6	105.8	96.7	73.8	.8	10.2	60.1	60.3	3/56.2	41.9	-3	6.9
Pork 2/	Pound	81.8	78.8	3/68.5	59.8	3.8	19.4	48.2	46.0	3/35.8	31.9	4.8	34.6
Butter	Pound	85.6	85.6	84.2	73.2	0	1.7	63.6	62.9	60.1	52.6	1.1	5.8
Cheese, American process	1/2 pound	49.5	48.4	45.6	32.3	2.3	8.6	22.2	21.9	20.3	14.2	1.4	9.4
Ice cream	1 gallon	83.3	82.3	81.1	84.2	1.2	2.7	28.6	28.0	26.6	21.0	2.1	7.5
Milk, evaporated	14 1/2-ounce can	18.1	17.8	17.4	14.5	1.7	4.0	8.9	8.6	8.4	6.2	3.5	6.0
Milk, fresh													
Home delivered	1/2 gallon	64.5	63.5	61.5	50.8	1.6	4.9	28.6	28.3	27.3	21.9	1.1	4.8
Sold in stores	1/2 gallon	57.2	55.9	54.5	46.6	2.3	5.0	28.6	28.3	27.3	21.9	1.1	4.8
Chickens, frying, ready-to-cook	Pound	42.2	42.5	40.1	43.5	-0.7	5.2	20.1	19.4	20.4	24.4	3.6	-1.5
Eggs, Grade A large	Dozen	75.0	69.7	3/64.3	56.2	7.6	16.6	50.3	49.1	41.6	36.1	2.4	20.9
Bread, white													
All ingredients	Pound	23.8	23.3	22.8	18.9	2.1	4.4	3.4	3.3	3.2	3.0	3.0	6.2
Wheat	Pound	--	--	--	--	--	--	2.6	2.5	2.5	2.4	4.0	4.0
Bread, whole or cracked wheat	Pound	32.6	32.1	30.8	--	1.6	5.8	3.2	3.2	3.2	--	0	0
Cookies, cream filled	Pound	50.4	49.5	49.9	--	1.8	1.0	4.4	4.5	4.5	--	-2.2	-2.2
Corn flakes	12 ounces	31.5	31.5	31.4	24.5	0	.3	2.6	2.4	2.4	2.4	8.3	8.3
Flour, white	5 pounds	58.3	57.9	57.9	53.3	.7	.7	20.3	20.2	20.1	18.8	.5	1.0
Apples	Pound	19.9	19.0	23.6	16.1	4.7	-15.7	4.9	5.6	9.5	5.0	-12.5	-48.4
Grapefruit	Each	14.6	15.3	3/13.7	10.7	-4.6	6.6	3.0	3.2	2.5	2.7	-6.2	20.0
Lemons	Pound	31.4	31.3	27.1	18.4	.3	15.9	9.4	10.9	9.1	4.2	-13.7	3.3
Oranges	Dozen	80.3	84.2	82.9	66.0	-4.6	-3.1	19.0	17.2	21.7	23.2	10.4	-12.4
Cabbage	Pound	16.4	12.8	13.0	8.7	28.1	26.1	6.3	4.6	3.6	2.4	37.0	75.0
Carrots	Pound	19.6	19.5	16.4	14.5	.5	19.5	6.0	8.0	5.2	3.7	-25.0	15.4
Celery	Pound	20.8	18.8	16.8	15.3	10.6	23.8	6.3	6.2	5.0	4.4	1.6	26.0
Cucumbers	Pound	37.5	25.1	3/34.4	--	49.4	9.0	15.0	9.1	11.9	--	64.8	26.1
Lettuce	Head	27.5	35.9	29.8	22.6	-23.4	-7.7	7.9	15.4	11.6	6.0	-48.7	-31.9
Onions	Pound	16.3	13.7	13.0	10.1	19.0	25.4	4.6	4.6	2.8	3.4	52.2	150.0
Peppers, green	Pound	63.2	42.4	44.6	--	49.1	41.7	27.0	19.0	16.7	--	42.1	61.7
Potatoes	10 pounds	83.8	78.5	3/76.8	58.3	6.8	9.1	24.9	3/24.0	3/24.0	17.8	24.5	3.8
Tomatoes	Pound	44.4	44.9	42.0	30.1	-1.1	5.7	16.3	19.3	15.8	10.6	-15.5	3.2
Peaches, canned	No. 2 1/2 can	34.1	33.9	34.6	34.3	.6	-1.4	6.0	6.0	6.1	6.1	0	-1.6
Pears, canned	No. 2 1/2 can	48.5	49.2	51.0	--	-1.4	-4.9	8.8	8.8	10.3	--	0	-14.6
Beets, canned	No. 303 can	18.3	18.2	18.2	--	.5	0	1.2	1.2	1.4	--	0	-14.3
Corn, canned	No. 303 can	24.1	24.0	23.9	17.8	.4	.8	3.0	3.0	3.0	2.4	0	0
Peas, canned	No. 303 can	24.9	25.1	24.6	21.0	-.8	1.2	3.7	3.7	3.8	3.1	0	-2.6
Tomatoes, canned	No. 303 can	20.0	19.7	19.7	15.6	1.5	1.5	3.3	3.3	3.7	2.3	0	-10.8
Orange juice, concentrate, frozen	6-ounce can	23.3	23.8	23.3	23.4	-2.1	0	9.2	11.3	10.0	8.2	-18.6	-8.0
French fried potatoes, frozen	9 ounces	16.5	16.4	15.9	--	.6	3.8	2.7	2.9	3/2.8	--	-6.9	-3.6
Peas, frozen	10 ounces	21.1	21.0	21.0	19.9	.5	.5	3.5	3.5	3.6	3.2	0	-2.8
Beans, dried	Pound	19.2	19.4	19.6	16.3	-1.0	-2.0	6.3	6.1	8.6	6.9	3.3	-26.7
Margarine	Pound	28.4	28.0	27.7	27.4	1.4	2.5	7.2	3/7.2	7.2	7.8	0	0
Peanut butter	12-ounce jar	46.9	46.8	45.4	41.4	.2	3.3	16.1	16.5	15.7	14.1	-2.4	2.5
Salad and cooking oil	24-ounce bottle	53.6	52.2	3/52.0	--	2.7	3.1	11.9	3/11.6	3/12.0	--	2.6	-8
Vegetable shortening	3 pounds	85.5	82.8	82.6	90.4	3.3	3.5	26.5	3/25.0	3/25.5	28.2	6.0	3.9
Sugar	5 pounds	63.0	62.4	61.1	54.5	1.0	3.1	24.5	24.9	3/25.2	20.2	-1.6	-2.8
Spaghetti with sauce, canned	15 1/2-ounce can	18.1	17.9	17.2	--	1.1	5.2	2.0	2.0	2.1	--	0	-4.8

1/ Product groups include more items than those listed in this table. For example, in addition to the products listed--Choice beef, lamb, and pork (major products except lard)--the meat products group includes lower grades of beef, the minor edible pork products, and veal.

2/ Gross farm value adjusted to exclude imputed value of byproducts obtained in processing.

3/ Many retail cost figures for October-December 1969 have been revised; figures in other columns revised as indicated.

4/ For the bakery products group and the individual wheat product, the net farm value is based on the market price of wheat received by farmers plus the cost of the marketing certificate to millers. This cost equals the value of the domestic marketing certificate received by farmers complying fully with the wheat program.

5/ Data for beef and pork have been extensively revised. For discussion of the revision see article in November 1969 issue of "Marketing and Transportation Situation."

Table 14.--Farm food products: Farm-retail spread and farmer's share of the retail cost, January-March 1970  
October-December 1969, January-March 1969, and 1957-59 average.

Product 1/	Retail unit	Farm-retail spread 2/						Farmer's share			
		January- March 1970	October- December 1969	January- March 1969	1957-59 average	Percentage change from:		January- March 1970	October- December 1969	January- March 1969	1957-59 average
						October- December 1969	January- March 1969				
		Dollars	Dollars	Dollars	Dollars	Percent	Percent	Percent	Percent	Percent	Percent
Market basket .....		719.76	710.93	685.14	594.78	1.2	5.1	41	41	40	39
Meat products .....		156.82	164.18	152.56	130.58	-4.5	2.8	58	56	54	54
Dairy products .....	Average quantities purchased per urban wage-earner and clerical-worker household in 1960-61	110.93	108.71	106.76	95.48	2.0	3.9	49	49	48	45
Poultry and eggs .....		44.16	42.15	39.49	36.74	4.8	11.8	58	58	58	61
Bakery and cereal products 4/											
All ingredients .....		145.45	142.25	138.30	117.85	2.2	5.2	19	19	19	21
Grain .....		---	---	---	---	---	---	14	14	14	16
All fruits and vegetables .....		189.69	182.73	179.63	152.91	3.8	5.6	25	27	27	25
Fresh fruits and vegetables ..		89.32	84.07	82.29	62.45	6.2	8.5	31	3/33	33	31
Fresh fruits .....		34.14	33.43	32.18	24.00	2.1	6.1	25	27	34	34
Fresh vegetables .....		55.18	50.64	50.11	38.45	9.0	10.1	34	36	33	30
Processed fruits and vegetables .....		100.37	98.66	97.34	90.46	1.7	3.1	20	21	21	19
Fats and oils .....		28.54	27.81	27.38	26.37	2.6	4.2	27	3/27	3/28	30
Miscellaneous products .....		44.17	43.10	41.02	38.45	2.5	7.7	17	17	3/18	18
<hr/>											
Beef, Choice grade 5/ .....	Pound	36.6	38.3	30.4	26.1	-4.4	20.4	63	60	3/66	66
Lamb, Choice grade .....	Pound	60.1	45.5	40.5	31.9	32.1	48.4	56	57	3/58	57
Pork 5/ .....	Pound	33.6	32.8	32.7	28.0	2.4	2.8	59	58	3/52	53
Butter .....	Pound	22.0	22.7	24.1	20.6	-3.1	-8.7	74	73	71	72
Cheese, American process .....	pound	27.3	26.4	25.3	18.1	3.4	7.9	45	45	45	44
Ice cream .....	gallon	54.7	54.3	54.5	63.2	0.7	0.4	34	34	33	25
Milk, evaporated .....	14 1/2-ounce can	9.2	9.2	9.0	8.3	0	2.2	49	48	48	43
Milk, fresh .....											
Home delivered .....	gallon	35.9	35.2	34.2	28.9	2.0	5.0	44	45	44	43
Sold in stores .....	gallon	28.6	27.6	27.2	24.7	3.6	5.1	50	51	50	47
Chickens, frying, ready-to-cook ..	Pound	22.1	23.1	19.7	19.1	-4.3	12.2	48	46	51	56
Eggs, Grade A large .....	Dozen	24.7	20.6	22.0	20.1	19.9	12.3	67	70	65	64
Bread, white .....											
All ingredients .....	Pound	20.4	20.0	19.6	15.9	2.0	4.1	14	14	14	16
Wheat .....	Pound	---	---	---	---	---	---	11	11	11	13
Bread, whole or cracked wheat ..	Pound	29.4	28.9	27.6	---	1.7	6.5	10	10	10	---
Cookies, cream filled .....	Pound	46.0	45.0	45.4	---	2.2	1.3	9	9	9	---
Corn flakes .....	12 ounces	28.9	29.1	29.0	22.1	-7	-3	8	8	8	10
Flour, white .....	5 pounds	38.0	37.7	37.8	34.5	.8	.5	35	35	35	35
Apples .....	Pound	15.0	13.4	14.1	11.1	11.9	6.4	25	29	40	31
Grapefruit .....	Each	11.6	12.1	11.2	8.0	-4.1	3.6	21	21	18	25
Lemons .....	Pound	22.0	20.4	18.0	14.2	7.8	22.2	30	3/35	34	23
Oranges .....	Dozen	61.3	67.0	61.2	42.8	-8.5	.2	24	20	26	35
Cabbage .....	Pound	10.1	8.2	9.4	6.3	23.2	7.4	38	36	28	28
Carrots .....	Pound	13.6	11.5	11.2	10.8	18.3	21.4	31	41	32	26
Celery .....	Pound	14.5	12.6	11.8	10.9	15.1	22.9	30	33	30	29
Cucumbers .....	Pound	22.5	16.0	22.5	---	40.6	0	40	3/36	3/35	---
Lettuce .....	Head	19.6	20.5	18.2	16.6	-4.4	7.7	29	43	39	27
Onions .....	Pound	9.3	9.1	10.2	6.7	2.2	-8.8	43	34	22	34
Peppers, green .....	Pound	36.2	23.4	27.9	---	54.7	29.7	43	45	37	---
Potatoes .....	10 pounds	58.9	58.5	52.8	40.5	.7	11.6	30	3/25	31	31
Tomatoes .....	Pound	28.1	25.6	26.2	19.5	1.0	7.3	37	43	3/47	35
Peaches, canned .....	No. 2 1/2 can	28.1	27.9	28.5	28.2	.7	-1.4	18	18	18	18
Pears, canned .....	No. 2 1/2 can	39.7	40.4	40.7	---	-1.7	-2.5	18	18	20	---
Beets, canned .....	No. 303 can	17.1	17.0	16.8	---	.6	1.8	7	7	8	---
Corn, canned .....	No. 303 can	21.1	21.0	20.9	15.4	.5	1.0	12	12	13	13
Peas, canned .....	No. 303 can	21.2	21.4	20.8	17.9	-9	1.9	15	15	15	15
Tomatoes, canned .....	No. 303 can	16.7	16.4	16.0	13.3	1.8	4.4	16	17	19	15
Orange juice, concentrate, frozen	6-ounce can	14.1	12.5	13.3	15.2	12.8	6.0	39	47	43	35
French fried potatoes, frozen ....	9 ounces	13.8	13.5	13.1	---	2.2	5.3	16	18	18	---
Peas, frozen .....	10 ounces	17.6	17.5	17.4	16.7	.6	1.1	17	17	17	16
Beans, dried .....	Pound	12.9	13.3	11.0	9.4	-3.0	17.3	33	31	44	42
Margarine .....	Pound	21.2	20.8	20.5	19.6	1.9	3.4	25	3/26	26	28
Peanut butter .....	12-ounce jar	30.8	30.3	29.7	27.3	1.7	3.7	34	35	35	34
Salad and cooking oil .....	24-oz. bottle	41.7	40.6	40.0	---	2.7	4.2	22	22	23	---
Vegetable shortening .....	3 pounds	59.0	57.8	57.1	62.2	-2.1	3.3	31	3/30	31	31
Sugar .....	5 pounds	38.5	37.5	35.9	34.3	2.7	7.2	39	40	3/41	37
Spaghetti with sauce, canned .....	15 1/2-ounce can	16.1	15.9	15.1	---	1.3	6.6	11	11	12	---

1/ Product groups include more items than those listed in this table. For example, in addition to the products listed--Choice beef, lamb, and pork (major products except lard)--the meat products group includes lower grades of beef, the minor edible pork products, and veal.

2/ The farm-retail spread is the difference between the retail cost and the net farm value shown in table on opposite page.

3/ Many farm-retail spread figures for October-December 1969 and January March 1969 have been revised; figures in other columns revised as indicated.

4/ For the bakery products group and the individual wheat products, the farmer's share is based on the market price of wheat received by farmers plus the cost of the marketing certificate to millers. This cost is returned to farmers complying with the Wheat Program.

5/ Data for beef and pork have been extensively revised. For discussion of the revision see article in November issue of "Marketing and Transportation Situation."

Table 15.--Farm food products: Retail cost, farm value of equivalent quantities sold by producers, byproduct allowance, farm-retail spread, and farmer's share of retail cost, January-March 1970.

Product 1/	Farm equivalent	Retail unit	Retail cost	Cross farm value	Byproduct allowance	Net farm value 2/	Farm-retail spread	Farmer's share
			Dollars	Dollars	Dollars	Dollars	Dollars	Percent
Market basket .....			1,224.79	---	---	505.03	719.76	41
Meat products .....			377.35	---	---	220.53	156.82	58
Dairy products .....			215.61	---	---	104.68	110.93	49
Poultry and eggs .....			105.27	---	---	61.11	44.16	58
Bakery and cereal products 3/	Farm produce equivalent to products bought per urban wage-earner and clerical-worker household in 1960-61	Average quantities purchased per urban wage-earner and clerical-worker household in 1960-61	180.02	---	---	34.57	145.45	19
All ingredients			---	30.50	5.40	25.10	---	14
Crain			254.45	---	---	64.76	189.69	25
All fruits and vegetables .....			129.03	---	---	39.71	89.32	31
Fresh fruits and vegetables .....			45.82	---	---	11.67	34.15	25
Fresh fruits .....			83.21	---	---	28.03	55.18	34
Fresh vegetables .....			125.42	---	---	25.05	100.37	20
Processed fruits and vegetables .....			38.90	26.79	16.43	10.36	28.54	27
Fats and oils .....			53.19	---	---	9.02	44.17	17
Miscellaneous products .....								
			Cents	Cents	Cents	Cents	Cents	Percent
Beef, Choice grade 4/ .....	2.28 lb. Choice grade cattle	Pound	98.1	66.4	4.9	61.5	36.6	63
Lamb, Choice grade 5/ .....	2.35 lb. lamb	Pound	106.6	68.0	7.9	60.1	46.5	56
Pork 4/ .....	1.97 lb. hogs	Pound	81.8	52.3	4.1	48.2	33.6	59
Butter .....	Cream and whole milk	Pound	85.6	103.9	40.3	63.6	22.0	74
Cheese, American process .....	Milk for American cheese	1/2 pound	49.5	23.1	.9	22.2	27.3	45
Ice cream .....	Cream, milk, and sugar	1/2 gallon	83.3	---	---	28.6	54.7	34
Milk, evaporated .....	Milk for evaporating	14 1/2-ounce can	18.1	9.1	.2	8.9	9.2	49
Milk, fresh								
Home delivered .....	4.39 lb. Class I milk	1/2 gallon	64.5	---	---	28.6	35.9	44
Sold in stores .....	4.39 lb. Class I milk	1/2 gallon	57.2	---	---	28.6	28.6	50
Chickens, frying, ready-to-cook .....	1.37 lb. broiler	Pound	42.2	---	---	20.1	22.1	48
Eggs, Grade A large .....	1.03 dozen	Dozen	75.0	---	---	50.3	24.7	67
Bread, white								
All ingredients .....	Wheat and other ingredients	Pound	23.8	---	---	3.4	20.4	14
Wheat .....	.877 lb. wheat	Pound	---	2.9	.3	2.6	---	11
Bread, whole or cracked wheat .....	.708 lb. wheat	Pound	32.6	---	---	2.3	29.4	10
Cookies, cream filled .....	.528 lb. wheat	Pound	50.4	---	---	4.4	46.0	9
Corn flakes .....	2.87 lb. yellow corn	12 ounces	31.5	6/6.0	6/3.4	6/2.6	28.9	8
Flour, white .....	6.8 lb. wheat	5 pounds	58.3	23.3	3.0	20.3	38.0	35
Apples .....	1.04 lb. apples	Pound	19.9	---	---	4.9	15.0	25
Crapefruit .....	1.03 grapefruit	Each	14.6	---	---	3.0	11.6	21
Lemons .....	1.04 lb. lemons	Pound	31.4	---	---	9.4	22.0	30
Oranges .....	1.03 doz. oranges	Dozen	---	---	---	---	---	---
Cabbage .....	1.08 lb. cabbage	Pound	16.4	---	---	6.3	10.1	38
Carrots .....	1.03 lb. carrots	Pound	19.6	---	---	6.0	13.6	31
Celery .....	1.08 lb. celery	Pound	20.8	---	---	6.3	14.5	30
Cucumbers .....	1.09 lb. cucumbers	Pound	37.5	---	---	15.0	22.5	40
Lettuce .....	1.88 lb. lettuce	Head	27.5	---	---	7.9	19.6	29
Onions .....	1.06 lb. onions	Pound	16.3	---	---	7.0	9.3	43
Peppers, green .....	1.09 lb. peppers	Pound	63.2	---	---	27.0	36.2	43
Potatoes .....	10.42 lb. potatoes	10 pounds	83.8	---	---	24.9	58.9	30
Tomatoes .....	1.18 lb. tomatoes	Pound	44.4	---	---	16.3	28.1	37
Peaches, canned .....	1.60 lb. Calif. cling peaches	No. 2 1/2 can	34.1	---	---	6.0	28.1	18
Pears, canned .....	1.85 lb. pears for canning	No. 2 1/2 can	48.5	---	---	8.8	39.7	18
Beets, canned .....	1.24 lb. beets for canning	No. 303 can	18.3	---	---	1.2	17.1	7
Corn, canned .....	2.495 lb. sweet corn	No. 303 can	24.1	---	---	3.0	21.1	12
Peas, canned .....	.69 lb. peas for canning	No. 303 can	24.9	---	---	3.7	21.2	15
Tomatoes, canned .....	1.84 lb. tomatoes for canning	No. 303 can	20.0	---	---	3.3	16.7	16
Orange juice, concentrate, frozen .....	3.66 lb. oranges	6-ounce can	23.3	---	---	9.2	14.1	39
French fried potatoes, frozen .....	1.38 lb. potatoes	9 ounces	16.5	---	---	2.7	13.8	16
Peas, frozen .....	.70 lb. peas for freezing	10 ounces	21.1	---	---	3.5	17.6	17
Beans, dried .....	1.00 lb. Mich. dry beans	Pound	19.2	---	---	6.3	12.9	33
Margarine .....	Soybeans, cottonseed, and milk	Pound	28.4	19.1	11.9	7.2	21.2	25
Peanut butter .....	1.33 lb. peanuts	12-ounce jar	46.9	---	---	16.1	30.8	34
Salad and cooking oil .....	Soybeans, cottonseed, and corn	24-oz. bottle	53.6	43.8	31.9	11.9	41.7	22
Vegetable shortening .....	Soybeans and cottonseed	3 pounds	85.5	68.0	41.5	26.5	59.0	31
Sugar .....	Sugar beets and cane	5 pounds	63.0	26.1	1.6	7/24.5	7/38.5	7/39
Spaghetti with sauce, canned .....	Wheat, tomatoes, cheese, sugar	15 1/4-ounce can	18.1	---	---	2.0	16.1	11

1/ Product groups include more items than those listed in this table. For example, in addition to the products listed--Choice beef, lamb, and pork (major products except lard)--the meat products group include lower grades of beef, the minor edible pork products, and veal. 2/ Gross farm value adjusted to exclude imputed values of byproducts obtained in processing. 3/ For the bakery products group and the individual wheat products, gross farm value, by-product allowance, net farm value, and farmer's share are based on the market price of wheat received by farmers plus the cost of the marketing certificate to millers. This cost is returned to farmers complying with the Wheat Program. 4/ Data for beef and pork have been extensively revised, for discussion of the revision see article in November 1969 issue of "Marketing and Transportation Situation." 5/ Farm product equivalents for lamb have been revised to allow for loss through pilferage, spoilage, dehydration and refacing and economic losses incurred through selling cuts in a lower-priced form or at special low prices because of quality deterioration. 6/ Based on market price of corn received by farmers; no allowance made for price support payment received by farmers who comply with the Federal Feed Grain Program. 7/ Net farm value adjusted for Government payments to producers was 28.3 cents, farm-retail spread adjusted for Government processor tax was 35.8 cents, farmer's share of retail cost based on adjusted farm value was 45 percent.





U.S. Department of Agriculture  
Washington, D.C. 20250

OFFICIAL BUSINESS



NOTICE

If you no longer need this publication,  
check here ☐ return this sheet,  
and your name will be dropped from  
the mailing list.

If your address should be changed,  
write the new address on this sheet  
and return the whole sheet to:

Automated Mailing List Section  
Office of Plant and Operations  
U.S. Department of Agriculture  
Washington, D.C. 20250

MTS-177 Marketing and Transportation Situation